Summary

Proposed Action

The Wasatch Front Regional Council (WFRC) is the designated Metropolitan Planning Organization for the urbanized areas of Salt Lake, Davis, and Weber Counties and is responsible for long-range regional transportation planning in these areas. In accordance with the Transportation Equity Act for the 21st Century (TEA-21), the WFRC is responsible for preparing a financially constrained Long Range Transportation Plan, which identifies regional transportation needs for a twenty-year planning horizon. The 2030 Long Range Transportation Plan, currently under development, recommends preservation of several regional transportation corridors for development within the year 2030 planning horizon. This report documents the results of the North Legacy Transportation Corridor Study completed by the WFRC, the Utah Department of Transportation (UDOT), and local communities. This Study was conducted to identify a transportation corridor in northwestern Davis and western Weber Counties.

During this Study, local communities in Davis and Weber Counties evaluated several corridor alternatives and selected an alignment, ranging from 220 feet to 328 feet (100 meters) in width, for the future location of major transportation facilities. These communities propose to protect this corridor from development, until it can be acquired by UDOT in the future. At an appropriate time in the future, prior to the development of transportation facilities, an Environmental Impact Statement (EIS) will be prepared to identify the purpose and need for these facilities and to evaluate alternatives and impacts. Federal funds cannot be used for corridor preservation or development of transportation facilities until the EIS process is completed. The EIS must resolve all environmental issues and must be approved through a Record of Decision (ROD) issued by the federal government.

Identification of the North Legacy Transportation Corridor (NLTC)

The location of the transportation corridor selected in this Study is known as the Final NLTC Alignment. The WFRC, the UDOT, and the effected local communities consider this corridor alignment as having the least impact and being the most functional among the range of alternatives investigated in this Study.

Figure S-1 graphically depicts the NLTC, and more detailed illustrations are included within the body of this report. The NLTC extends approximately 23 miles from the northern end of the Legacy Parkway in Farmington, Davis County, to 12th Street (immediately east of 5100 West) in Weber County. In Davis County, the 328 foot wide NLTC alignment generally follows the Bluff paralleling the Great Salt Lake shoreline. The Bluff is a geographical feature, which has historically been the preferred location for a new transportation corridor, and which generally defines the western limits of developable land in northern Davis County. The NLTC logically terminates in Farmington, adjacent to I-15, near the Legacy Parkway. The NLTC passes through the

communities of Farmington, Kaysville, Layton, Syracuse, West Point, and unincorporated Davis County. In Weber County, the NLTC narrows to 220 feet and is located immediately east of, 5100 West. It passes through the communities of Hooper, West Haven, and unincorporated Weber County. The NLTC northern limit of 12th Street is a "planning" boundary only. Future studies, as well as one that is currently underway in Weber County, will investigate extending the NLTC further north to a more logical northern terminus.

The Davis County communities have agreed to the NLTC location. The Weber County communities have agreed to a general transportation strategy, which includes a combination of the NLTC, the widening of I-15, some new arterial roadways and widening of existing arterial roadways. This resulting strategy has met both regional objectives and those of the NLTC Study. As future development and travel patterns become more established, Weber County communities may chose to refine some aspects of this strategy.

Study Background and Purpose

Background

In the early 1960's, shortly after I-15 was constructed, local community leaders recognized the need for an alternative transportation route in western Davis and Weber Counties. The communities collaborated to plan and designate an alternative roadway system that became known as the "West Davis Highway". This designated roadway has appeared in local General Plans and other planning documents since 1962.

Transportation facilities in this area received the attention of the 1995 Utah Legislative Session. Funds were appropriated to prepare a Major Investment Study (MIS) for a Western Transportation Corridor (WTC) that addressed transportation needs in the area of the proposed West Davis Highway. The result of the WTC-MIS was a Locally Preferred Alternative that included the following elements: a new roadway; preservation of the East Commuter Rail Corridor for multi-modal purposes; and increased commuter bus service.

As a follow-up to the multi-modal elements of the Locally Preferred Alternative identified in the MIS, WFRC is currently conducting the Inter-regional Corridors Alternatives Analysis. This analysis will identify the types and limits of various regional transportation modes within the Study Area and beyond.

Purpose

This Study built upon the findings of previous studies by conducting evaluations that were more detailed and provided refinements to the previously identified Locally Preferred Alternative (from WTC-MIS). The primary objective of this Study was to identify a specific alignment for the NLTC that could be supported by local jurisdictions.

The goals of this Study were to:

- define the location and width of a north-south transportation corridor in northwestern Davis and western Weber Counties,
- gain consensus from local jurisdictions on NLTC alignment and width, and
- obtain agreement from local jurisdictions to preserve the corridor pending further actions by UDOT and/or the Utah Transit Authority (UTA).

The end products of this Study are a report and a set of aerial maps that will enable the local jurisdictions, in cooperation with UDOT, to preserve a transportation corridor.

Study Process

Scope

This Study focused on the specific location of the NLTC, based on a variety of social, economic, and environmental criteria, and was neither a NEPA-level environmental analysis nor an evaluation of transportation alternatives. This report does not present purpose and need for specific improvements, nor does it address design-level details (which would be considered as part of the next step of project development; a NEPA-level environmental study). An EIS will be required before the NLTC can be developed.

Advisory Committee

A 23-member Advisory Committee was established during the early stages of the Study with representatives from the local jurisdictions in the Study Area, WFRC, UDOT, Utah Transit Authority, and the Federal Highway Administration. The names and affiliations of Advisory Committee members are shown in Section 2.1.2 of this report. The purpose of the Advisory Committee was to provide recommendations to the Study Team regarding the direction of the Study, local concerns, and preferences for NLTC alternatives. Advisory Committee members provided a means of information exchange between the Study Team and their communities or agencies. The Advisory Committee and Study Team met monthly and represented the Study at four public information meetings.

Initial Steps

Identification of the Final NLTC Alignment was performed in a manner consistent with the standard transportation planning process. The initial steps began with a broad look at the Study Area and the definition of feasible NLTC alternatives. These corridors were relatively wide and some alternatives included a few specific sub-alternatives within the broader corridor. The Study Team and Advisory Committee evaluated feasible north-south corridors within the Study Area including the corridors identified in the WTC-MIS. Analysis by the Study Team indicated that a single major transportation corridor through Davis and Weber Counties could serve all future regional transportation needs in the Study Area. Eventually, four initial alternatives were selected for formal screening.

Evaluation of Initial Corridor Alternatives

The Advisory Committee helped identify the following initial corridor alternatives for additional evaluation:

- Bluff Road East Alternative,
- Bluff Road West Alternative,
- Power Corridor Alternative, and
- Western Loop Alternative.

The Advisory Committee used an evaluation matrix process to select the initial NLTC location. This process included the identification of weighted evaluation criteria and a ranking of each criterion against each alternative. These assessments were placed into a matrix-type table and overall results were calculated.

The Bluff Road West Alternative ranked first based on average cost, average benefits, and low impacts. The Bluff Road East Alternative ranked second based on higher cost, average benefits, and higher impacts. The Western Loop Alternative ranked third based on higher cost, average benefits, and higher impacts, including high wetland impacts. The Power Corridor Alternative ranked last because it had restrictive cost implications (approximately $300 million in underground power transmission line relocation costs), and higher impacts.

Environmental Overview

An environmental overview was completed for the alternatives investigated during this Study. Following identification of various sub-alternatives, each was evaluated to determine possible environmental consequences and feasibility. The primary purpose was to identify any environmental "fatal flaws" related to the sub-alternatives and to lay the groundwork for detailed analysis in the future EIS. This process continued as various adjustments were made to the Bluff Road West Alternative in response to public comments and identified impacts.

The environmental overview included a review of land use, travel patterns, farmlands, neighborhoods, residential impacts, public facilities, residential displacements, business and economic effects, wetlands, hazardous waste sites, and historic properties.

Agency Involvement

A large part of the Study was devoted to agency and local government coordination. This effort included numerous meetings, letters, emails, phone calls, and other out-reach tools, such as Internet information sites, etc. The community involvement program of the Study involved one-on-one and group meetings with local municipal officials, Advisory Committee meetings, and public meetings/hearings conducted within normal local government meeting schedules.

Public Involvement

The public was kept informed of progress with public notices, press releases and newspaper articles, and posting of graphics on the UDOT web site. Four public

meetings were held during the Study. Over 750 people signed in at the open house meetings and nearly 420 written comments were received as part of this effort; the full text of comments received is a permanent part of the Study record. Chapter 2 of this report provides more details on the public involvement process.

Public Concerns

Presentation of NLTC alternatives sparked different public responses in Davis and Weber Counties. Public comments from Davis County citizens indicated general support of the NLTC identification process. Specific comments were often related to location and impacts. Public comments from Weber County citizens indicated that they generally did not support the NLTC identification process. Specific comments questioned the need for a major transportation facility and were related to the general location and impacts of a facility. A thorough review of the specific comments in Weber County indicated that approximately two-thirds of those commenting did not want the corridor to be identified or preserved. Approximately one-third of the respondents in Weber County supported corridor preservation.

Selection of the Final NLTC Alignment

The Advisory Committee approved the Final NLTC Alignment during two separate meetings held in February 2001. The Advisory Committee members from Davis County reviewed and approved NLTC drawings that depicted minor variations to the Bluff Road West Alternative. The Advisory Committee members from Weber County reviewed and approved NLTC drawings that depicted an alignment that is located on the eastern side of 5100 West, up to 12th Street. Also, they supported a plan to widen and extend existing arterial roadways in Weber County and to construct new roadways, where needed. Weber County is in the process of further evaluating transportation needs in the Study Area, and this may lead to some future refinements to the Final NLTC Alignment.

Relationship Between NLTC and the Legacy Parkway

The NLTC is independent of the Legacy Parkway in southern Davis County. Each facility has a separate utility and function. If the Legacy Highway (Brigham City to Nephi) is constructed, the NLTC will connect to the Legacy Parkway in Farmington. Construction of transportation facilities within the NLTC will be needed whether or not any other sections of the Legacy Highway are constructed.

Factors Supporting the NLTC

Growth in Davis and Weber Counties

Between 2001 and the year 2030, the projected growth in population and employment in the Study Area will be substantial. The population of Davis County is projected to increase by 64%, and Weber County by 56% during this 30-year period. Employment will increase by 63% and 74%, respectively. Very importantly, the number of homes in Davis and Weber Counties will increase by 84% and 69%, respectively. This projected growth will require transportation facility development.

Mobility

National trends show that mobility is a highly valued commodity and is a reflection of societies increasing wealth. The average household generates approximately 10 daily trips within the overall community. It is anticipated that these long-standing trends will continue so mobility, and therefore transportation facilities, will remain a valued commodity.

Reasons to Preserve a Transportation Corridor

A multi-modal corridor containing a freeway, high-speed rail transit, and other facilities requires a wide right-of-way and minimum curvature. These strict geometric standards are difficult to achieve in urbanized areas, and developing such facilities after an area has already built-up is extremely disruptive or wasteful, and may prove impossible. A pro-active plan to designate the transportation route well ahead of land development yields the following benefits:

- compatible land and transportation system development,
- maximization of public fund benefits, and
- minimization of adverse impacts to the environment, individual lives, and properties.

Transportation Facility Development

Potential Travel Modes

The types and combinations of transportation facilities will be based on community needs and available technology when a future EIS is completed. The NLTC could contain a variety of multi-modal options, including arterial type highways, light rail, freeway, commuter rail, bus transit; and bicycle, pedestrian, or equestrian facilities. In addition, certain utilities could be co-located within the NLTC, thereby maximizing the benefit of the corridor. The key principle is that any type of future facility will be much less costly and disruptive if the corridor is protected from land development now.

NLTC Preservation Width

In general, the NLTC width was established at 328 feet (100 meters) in order to permit construction of the high-volume, controlled access transportation facilities that will be needed in the future. This is a typical width for this type of planning study and is consistent with UDOT standards. This width was chosen to:

- match the corridor width of the Legacy Parkway to the South,
- preserve multi-modal options within the NLTC, and
- provide space for enhanced aesthetic solutions related to trails and potential noise mitigation techniques.

The Weber County portion of the NLTC was established at 220 feet based on lower future travel demand than in Davis County. Lower future traffic volumes in Weber County could be served by a medium-speed arterial facility.

Context Sensitivity

The impacts of the NLTC development can be softened by reducing noise intrusion and visual impacts. Typically, this is accomplished during design of facilities by being sensitive to the context of the surroundings. The NLTC width to be preserved was selected, specifically, to ensure that future design can incorporate landscaping, earthen berms, and other mitigation measures that reduce the effects of noise and improve visual appeal.

Estimated Construction Timing

In general, growth and demand will be greatest in the Davis County portion of the NLTC. Construction in Davis County could begin in the next 10-20 years depending upon actual growth rates, development patterns, and availability of financial resources. Construction in Weber County may not be needed for 20-30 years.

The Next Steps

The single most important goal of this Study was to enable each jurisdiction to protect the NLTC from development. This responsibility is shared by local and state governments and, from a planning perspective, the WFRC. The primary responsibility rests with local communities along the NLTC, because of their ability to apply land use controls, such as zoning and approval of developments. Adoption of the NLTC by local governments is both an internal and external commitment. It is an internal commitment to citizens and future leaders in the community that the Final NLTC Alignment will be the ultimate location for regional transportation facilities within the Study Area. It represents an agreement with, and a commitment to, adjacent jurisdictions that the NLTC is the best location for such facilities. The following steps are necessary to preserve the Final NLTC Alignment for future transportation needs:

Local Governments

- incorporate the NLTC into community master plans,
- initiate NLTC preservation efforts, and
- continue close coordination with WFRC and UDOT, and request assistance, as necessary, in difficult preservation cases.

WFRC

- assist community preservation efforts through technical assistance and membership on the UDOT Corridor Preservation Advisory Council,
- identify NLTC property preservation in the 2030 Long Range Transportation Plan,
- coordinate with UDOT to identifying funding for corridor preservation in the Transportation Improvement Program (TIP), Statewide Transportation Improvement Program (STIP), and other new sources, and
- formulate a corridor preservation plan.

UDOT

- identify funding for corridor preservation and development in the Statewide Transportation Improvement Program (STIP).

Utah Transit Authority (UTA)

- assist WFRC and UDOT in the Long Range Transportation Plan process in identifying transit options that might utilize the NLTC.

Importance of an EIS

The ultimate decision to build a major transportation facility can occur only after an EIS has been completed. Federal government agencies review the EIS and issue a ROD. The ROD is the official enabling document that approves the transportation facility route, defines the modes of transportation within the corridor, qualifies the project to receive federal funding, and authorizes design and construction.

Early initiation of an EIS will hasten the project development process; however, it may also require periodic re-evaluation of the corridor if project design and construction do not begin within three years after completion of an EIS. An EIS that has not had significant action in three years needs a re-evaluation prior to a significant action. Current UDOT practice on a corridor level EIS calls for a re-evaluation for each project within the corridor as they arise. The re-evaluation and subsequent SEIS, if it were needed, would only be required for the area of the specific project within the NLTC. Therefore, an EIS should commence when the need for transportation facilities is clear and sufficient funding has been identified for their development.

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List of Acronyms

AC	Advisory Committee
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
D&RG	Denver and Rio Grande Railroad
DEIS	Draft Environmental Impact Statement
DNR	Department of Natural Resources
DWQ	Division of Water Quality
EIS	Environmental Impact Statement
FEIS	Final Environmental Impact Statement
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
GIS	Geographic Information System (Database)
HOV	High Occupancy Vehicle
I-15	Interstate 15
I-80	Interstate 80
IRCAA	Interregional Corridors Alternatives Analysis
LPA	Locally Preferred Alternative
LRP	WFRC Long Range Transportation Plan
LRT	Light Rail Transit
MIS	Major Investment Study
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
NLTC	North Legacy Transportation Corridor
NWI	National Wetland Inventory
ROD	Federal Record of Decision
SEIS	Supplemental Environmental Impact Statement
SHPO	State Historic Preservation Office
STIP	Statewide Transportation Improvement Program
TEA-21	Transportation Equity Act for the 21st Century
TIP	Transportation Improvement Program
UDEQ	Utah Department of Environmental Quality
UDOT	Utah Department of Transportation
UP	Union Pacific Railroad
UPL	Utah Power & Light
USACOE	United States Army Corps of Engineers
UST	Underground Storage Tanks
UTA	Utah Transit Authority
VMT	Vehicle Miles of Travel
WFRC	Wasatch Front Regional Council
WTC	Western Transportation Corridor (Davis & Weber Counties)

1 Background and Purpose

1.1 Introduction

The Wasatch Front Regional Council (WFRC) is the designated Metropolitan Planning Organization (MPO) for the Salt Lake City, Ogden, and Davis Metropolitan statistical areas. The WFRC has responsibility for developing the Long Range Transportation Plan (LRP) for the region, which includes Weber, Davis, Salt Lake, Tooele and Morgan counties. The 2020 and Draft 2030 Long Range Plans LRP's identify several corridor locations to be preserved for future regional transportation facilities. This report documents recent efforts by the WFRC, the Utah Department of Transportation (UDOT), and local communities to identify property for a multi-modal transportation corridor in northwestern Davis and western Weber Counties. This corridor is known as the North Legacy Transportation Corridor (NLTC).

Local communities in Davis and Weber Counties have studied several feasible corridor alternatives in the Study Area and have selected a Final NLTC Alignment, ranging from 220 feet to 328 feet (100 meters) wide. The NLTC is the proposed location for a regional transportation facility in the future. These communities propose to protect this corridor from development, until completion of an EIS and acquisition of right-of-way by UDOT.

1.2 Study Area

The Study Area for the NLTC included the portions of Davis and Weber Counties shown on Figure 1. The Study Area began in Farmington, near the northern terminus of the Legacy Parkway, and extended northward to the Weber/Box Elder County line. It extended from the wetlands along the shore of the Great Salt Lake on the west to Interstate 15 (I-15) on the east. Geographic constraints at the northern and southern ends of the Study Area required the NLTC to begin and end near I-15.

1.3 NLTC History and Related Studies

During the early 1960's, shortly after I-15 was constructed, community leaders in Davis County recognized the future need for an additional transportation facility west of I-15. These communities banded together to identify a future roadway that was parallel to I-15 and was located at the western-most edge of the land area in Davis County. This roadway has appeared in Davis County master plans since 1962, and eventually became known as the "West Davis Highway". Since the early 1970's, Weber County has identified 4700 West to be improved and to serve as an arterial on the western side of Weber County. The West Davis Highway concept was further refined in the 1980's and 1990's as development continued and it was recognized that the roadway could serve both as a principle arterial and as a form of demarcation between developable and non-developable (wetland) areas.

Insert fig 1

1.3.1 1995-98 Western Transportation Corridor (WTC) Major Investment Study (MIS)

In response to rapidly increasing congestion on I-15, the 1995 Session of the Utah Legislature appropriated funds for a Western Transportation Corridor Major Investment Study (WTC-MIS) in the area of the West Davis Highway concept. The purpose of the WTC-MIS was to assess transportation alternatives and determine if a major investment of public funds was warranted. The WTC-MIS began in 1995 and concluded in January 1998. The Study Area extended from I-15 westward to the Great Salt Lake and from Interstate 80 (I-80) in Salt Lake County northward to 12th Street in Weber County.

Late in 1996, Governor Leavitt announced a long-range plan to build a "Legacy Highway" through western Weber, Davis, Salt Lake and Utah counties. By this time, the WTC-MIS Steering Committee had concluded that such a facility in southern Davis County would be part of the WTC Locally Preferred Alternative (LPA). Subsequently, the Utah Department of Transportation (UDOT) announced plans to advance the southern Davis County segment of the WTC LPA to an Environmental Impact Statement (EIS). Because this area was environmentally sensitive, UDOT's plan brought the WTC-MIS increased critical review from the public, resource agencies, and environmental organizations. This increased focus required significantly more time and resources than originally anticipated and delayed publication of the WTC-MIS Final Report until January 1998.

WTC-MIS Findings

The WTC-MIS Final Report established purpose and need for preservation of a 200 foot wide transportation corridor throughout the length of the Study Area. Additionally, through a public and agency involvement process and through considerable consensus building among various parties, the WTC-MIS identified a LPA based on an analysis of the various alternatives and their ability to meet the purpose and need for transportation facilities. The result was a LPA that combined portions of several alternatives and included the following elements:

- a new roadway (identified as a principal arterial throughout its length),
- preservation of the eastern commuter rail corridor for multi-modal purposes, and
- increased commuter bus service.

1.3.2 Legacy Parkway Environmental Impact Statement

UDOT advanced the southern Davis segment of the WTC to a Draft EIS (DEIS) and Final EIS (FEIS). During this process, the decision was made to eliminate the connection to I-80 and to terminate the facility at I-215 on the south. The purpose and need developed during the DEIS supported the WTC-MIS conclusion that an access-controlled 4-6 lane parkway facility was needed in the

southern Davis County segment. The FEIS was approved through a Record of Decision (ROD) issued in December 2000. Certain elements of the project were being challenged in court; however, UDOT began construction of the Legacy Parkway in May 2001.

1.3.3 Interregional Corridors Alternatives Analysis (IRCAA)

As a follow-up to the multi-modal elements of the LPA identified in the WTC-MIS, WFRC was conducting the Inter-regional Corridors Alternatives Analysis (IRCAA) concurrent with the NLTC Study. The IRCAA would identify the types and limits of various transportation modes within the Study Area and beyond. The IRCAA would identify priorities and recommend phasing for various corridor alternatives under consideration. Selected alternatives would be included in the 2030 LRP, which was also being developed during the NLTC Study.

1.3.4 Relationship Between the NLTC Study and Other Studies and Plans

The NLTC Study only dealt with that portion of the WTC-MIS Study Area located north of the Legacy Parkway. The Legacy Parkway design currently does not include a direct connection to the NLTC. This NLTC Study generally accepted the results of the 1998 WTC-MIS purpose and need and LPA as staring points, including the need for preservation of a corridor for future transportation facilities. Neither this Study nor the WTC-MIS had the objective of identifying future travel demand or specific transportation facilities in the corridor. The IRCAA Study and 2030 LRP would clarify the priority and timing for advancement of the NLTC, or segments of the NLTC, into an environmental process.

1.4 Purpose of this Study

The purpose of this Study was to select a corridor of sufficient width to accommodate future multi-modal transportation facilities in northwestern Davis and western Weber Counties. This Study identified the property necessary for various transportation mode alternatives. It built upon the findings of previous studies through more detailed evaluations, and it further refined the LPA selected in the WTC-MIS. The primary products of this Study were:

- this report, which documents the process used to select the NLTC alignment, and
- the property preservation drawings for the Final NLTC Alignment, which would enable local jurisdictions, in cooperation with UDOT, to preserve the Final NLTC Alignment.

The documentation provided in this report will be the basis for identifying the scope and direction for an EIS. Cities will use the property drawings for general planning and when evaluating proposed development within the Study Area. With this information, local jurisdictions, developers and property owners will have enough details about the corridor location and width to accommodate the corridor as part of proposed development plans.

The purpose of this Study was to determine the specific location and width for the NLTC and to gain community support for its preservation. It was beyond the scope of this Study to define the type, size or mixture of transportation facilities that will occupy the NLTC in the future. The follow-on EIS will evaluate all alternatives before making this determination. The EIS will be based on a clear purpose for these transportation facilities and need for development within a specific timeframe.

1.5 Need for Preservation of the NLTC

This NLTC Study accepted the conclusions and recommendations of the WTC-MIS, which was completed approximately two years earlier. The analysis of purpose and need completed during the WTC-MIS concluded that a 200 foot wide transportation corridor would be needed to accommodate a principal arterial or parkway type facility and other potential transportation modes in the future. Ultimately, Davis County communities chose to protect a 328 foot wide corridor, and Weber County chose to protect a width of 220 feet. Modifications were also made to the general alignment chosen in the WTC-MIS. Otherwise, this NLTC Study directly supports the results of the WTC-MIS.

Despite current and planned transportation system improvements by the year 2030, the magnitude and nature of population and employment growth was projected to result in significant transportation problems in the Study Area, as evidenced by existing and anticipated congestion. The WTC-MIS concluded that a new transportation corridor was needed for the following reasons, which are also valid for this NLTC Study:

Meet Existing and Future Mobility Needs
This included facilitating the movement of people and goods, as well as meeting existing and future travel demand that follows population and employment trends.

Relieve Congestion on Local Roadways
Existing and projected future congestion on local north-south roadways was caused in large part by through traffic and local traffic avoiding I-15 congestion. Also, part of the congestion that occurs on east-west roadways was caused by traffic accessing I-15 for north-south travel. This local congestion could adversely affect the economic viability of local business.

Support Local and Regional Planning within the WFRC Jurisdiction
The planning for the NLTC supported local land use and regional transportation system planning. The need for an additional transportation facility was recognized in nearly all the general plans of the local communities in the Study Area. The general plans made general provisions for a new transportation corridor but they did not define the exact location.

Improve Safety and Emergency Response
Both traffic congestion and the use of indirect routes for through travel could lead to the higher than expected accident rates and safety problems. Congestion of

both north-south and east-west roadways could substantially increase emergency response time for police, fire, and medical assistance. With I-15 serving as the primary north-south transportation facility, major crashes or hazardous spills on I-15 would severely affect safety and emergency response time.

1.6 Demographic Projections

Future travel patterns were based on the changes in population, housing and jobs in a particular area, and other technical factors. The following demographic projections were taken from the most recent (2001) WFRC data sources. The following tables provide both countywide projections and projections for those portions of Davis and Weber Counties in the NLTC Study Area.

1.6.1 Davis County

The population of Davis County was expected to increase 64% over the following 30 years. Most of this growth was expected to occur in the following 20 years and to slow as the County began to approach build-out shortly after 2030. Employment was projected to grow at the same rate as the population. The most significant change would be the growth in dwelling units (homes), which would increase 84%. This was 20% greater than the population increase, which reflected a national and statewide trend toward slightly smaller family size. Tables 1 and 2 summarize these projections:

Table 1 – Davis County Demographic Projections

	2000	2030	Increase	Change
Population	240,460	392,003	153,009	+64%
Employment	114,499	187,069	72,570	+63%
Households	78,228	143,966	65,735	+84%

Since much of the undeveloped land in Davis County was located in the NLTC Study Area, growth in population and households would be greater than countywide growth:

Table 2 - NLTC Study Area Demographic Projections in Davis County

	2000	2030	Increase	Change
Population	154,495	271,278	116,783	+76%
Employment	71,990	116,750	44,760	+62%
Households	45,435	101,863	43,286	+95%

1.6.2 Weber County

The growth in Weber County population and homes would be slightly less than Davis County over the following 30 years, while employment growth would be greater. Tables 3 and 4 summarize Weber County 2000-2030 growth projections:

Table 3- Weber County Demographic Projections

	2000	2030	Increase	Change
Population	186,987	307,350	110,817	+56%
Employment	112,012	194,663	82,651	+74%
Households	64,263	108,359	44,096	+69%

Most of western Weber County within the NLTC Study Area was located west of the current urban growth boundary. That is to say, most of the land was rural and was zoned for agriculture. As urban development progresses westward in this area, future land use patterns will change. Socioeconomic projections were based largely on current local government master plans, which were likely to change in the future in response to urban growth pressures. The slightly more rapid growth in population than in households in this area indicated that family size per dwelling unit would continue to increase, probably due to the influx of young families. Job growth would be very rapid in this area.

Table 4 – NLTC Study Area Demographic Projections in Weber County

	2000	2030	Increase	Change
Population	63,982	106,535	42,533	+67%
Employment	20,687	46,849	26,162	+126%
Households	20,573	38,702	14,886	+63%

The data in Tables 1-4 indicated several significant trends and lead to some conclusions. By 2030, at the projected rate of growth, Davis County will be approaching build-out, while Weber County will still have open land for development, particularly in the Study Area. Job growth in Weber County will be greater than the population growth, which may lead to increased commuting into Weber County from adjacent areas, including Davis County. Areas in northern Davis County and western Weber County that were located in the NLTC Study Area, and had the most undeveloped land, would experience growth in population and households significantly greater than the county-wide averages, above. This would generate increased travel demand to the employment and retail centers along the I-15 corridor and to similar locations elsewhere in the region.

1.7 Future Travel Demand

As noted in Section 1.4, it was beyond the scope of this NLTC Study to formally analyze travel demand for purposes of identifying future transportation facility types in the NLTC. Also, this Study did not attempt to revalidate the purpose and need for the corridor established in the WTC-MIS. That said, during this Study, it became necessary to informally analyze projected travel demand, particularly in Weber County. These aspects of the Study are discussed in succeeding chapters.

Unfortunately, none of the year 2030 regional models or plans had been completed during the NLTC Study. This included the 2030 regional travel demand model, the 2030 LRP, and the IRCAA. The Study Team used elements of the 2020 LRP and preliminary data from other sources to complete the mobility analysis needed in this Study.

The Study Team evaluated various NLTC alternatives in terms of regional mobility and general congestion levels. New demographic projections were used to estimate future travel demand. The mobility analysis was based on traffic characteristics produced by the (preliminary) 2030 WFRC Regional Travel Demand Model. The measures of effectiveness include the following items:

- overall travel delay (Delay) in hours per day experienced on the transportation system within the Study Area, and
- overall vehicle miles traveled (VMT) per day on the transportation system within the Study Area.

The mobility analysis assumed that the roadway network would be improved as indicated in the 2020 LRP. This included widening of I-15 to 6-lanes between 30th Street and 2700 North in Weber County. The mobility analysis indicated that improvements to other arterial and collector roadways within the Study Area would be needed to provide a transportation system with limited congestion.

2 Study Approach

This chapter describes the general approach that was used by the Study Team to identify the location of the NLTC. Specific information about the development and evaluation of corridor alternatives is provided in subsequent chapters. The process to select the Final NLTC Alignment was performed in a manner consistent standard transportation planning practice. This started with a broad look at the Study Area and definition of general corridor alternatives. These corridors were relatively wide and a general assessment was used to identify the initial NLTC alignment. Some portions of the initial NLTC alignment were evaluated in more detail. Sub-alternatives were evaluated and screened to identify the Final NLTC Alignment in specific areas.

This Study built upon the findings of the WTC-MIS, but evaluations that were conducted in more detail. Early in this Study, the detailed process led to refinements of the LPA selected during the WTC-MIS. Later in the Study, the same process produced detailed information that was used in screening various alternatives and sub-alternatives. This Study did not include a NEPA-level environmental evaluation. Both engineering and environmental analysis were limited to the level of detail appropriate for a corridor study. The Study Team realized that it might be some time before an EIS was completed for the NLTC and they attempted to identify basic environmental consequences, by NEPA category, which would undergo a much more detailed analysis in the EIS. Chapter 6 of this document describes the environmental impacts associated with the Final NLTC Alignment.

2.1 Stakeholders and Study Coordination Structure

A large part of the Study process was devoted to public involvement and agency coordination. Therefore, the first task of the Study was the identification of stakeholders and the creation of a committee structure that included the stakeholders. This effort included numerous meetings, letters, emails, and phone calls. The public involvement and agency coordination effort involved one-on-one and group meetings with local and County officials, Advisory Committee meetings, and public hearings conducted within the local government framework, and area-wide public open houses. Appendices 1A, 1B, and 1C include summaries of the public meetings. Appendix 2 provides a summary of proceedings and written meeting notes. Approximately 150 staff, community, public, and other meetings were conducted during the study process.

2.1.1 Study Team

The Study Team included representatives from the WFRC and the UDOT (Planning and Programming, Region 1, and the Legacy Highway Team). Michael Baker Jr., Inc. led the consultant team of H.W. Lochner, Inc. and Meridian Engineering and Surveying, L.C.

2.1.2 Project Advisory Committee

An Advisory Committee (AC) was established during the early stages of the Study. The AC was comprised of representatives from the local jurisdictions in the Study Area, the WFRC, the UDOT, and the Federal Highway Administration (FHWA). The purpose of this committee was to provide recommendations to the Study Team regarding conduct of the Study, input on local community issues, and review of interim results.

The AC Members are listed below. Representation from Hooper changed during the Study due to their concurrent incorporation as a municipality. It became necessary to address separate issues in each County, so separate AC meetings were held for Davis County and Weber Counties towards the end of the Study.

NLTC Advisory Committee Members

Weber County	Craig Barker
Marriott-Slaterville	Owen Burnham
Ogden	Fred Aegerter
West Haven	Ron Schultz
Hooper	Dennis Weston / Durk Bailey
West Weber	Gene Atkinson
Taylor	Mike Atkinson
Roy	Blake Wahlen
Farr West	Jimmie Papageorge
Plain City	Lynn Moyes
Davis County	Wilf Sommerkorn
West Point	Scott Nielson
Clinton	DeMar Mitchell
Syracuse	Mike Moyes
Layton	Peter Matson/Scott Carter
Kaysville	John Thacker
Farmington	David Petersen
Box Elder County	Denton Beecher
UDOT Region One	Rod Terry
UDOT Legacy Team	Todd Jensen
UDOT Planning	Matt Swapp / Walt Steinvorth
FHWA	Greg Punske
WFRC	George Ramjoue
WFRC	Barry Banks
WFRC	Mick Crandall

All or part of the AC met on 11 occasions to review NLTC information and help make decisions related to Study direction or public involvement. In addition, approximately 50 individual meetings were held with the local governments within the Study Area. The Study Team focused on solutions that were acceptable to these groups and a large degree of coordination was necessary.

2.1.3 Resource Agencies

The Study Team met with environmental and cultural resource agency representatives in an effort to provide them with study information and to determine the issues that were important to them. The following agencies were invited to attend an agency coordination meeting that occurred in October 1999. In addition, plans of the Final NLTC Alignment were sent to these agencies in May 2001.

- U.S. Army Corps of Engineers (USACOE),
- U.S. Fish & Wildlife Service,
- Utah Department of Agriculture,
- Division of Wildlife Resources,
- Utah Heritage Foundation,
- UDOT Office of Loss Control,
- UDOT Environmental Studies,
- Utah Department of Environmental Quality (UDEQ) Division of Air Quality,
- UDEQ Solid and Hazardous Waste,
- UDEQ Environmental Response and Remediation,
- UDEQ Division of Water Quality,
- Department of Natural Resources (DNR) Energy and Resource Planning,
- DNR Division of Water Resources,
- DNR State Lands & Forestry,
- DNR Utah Geological Survey,
- DNR Division of Wildlife Resources,
- DNR State Parks and Recreation,
- DNR Division of Water Rights,
- FHWA – Utah Division,
- Governor's Office of Planning & Budget,
- Natural Resources Conservation Service,
- Utah Open Lands,
- Ecological Services,
- Division of State History,
- Weber County School District, and
- Davis County School District.

Several meetings were held with the USACOE during the study process to discuss wetland related issues and to review various NLTC alternatives.

2.1.4 Property Owners and Other Stakeholders

The Study Team held coordination meetings with the following groups:

- Nature Conservancy of Utah,
- Shepard Lane Neighborhood Group,

- Utah Open Lands,
- Utah State Legislators, and
- Weber Farm Bureau.

2.1.5 Utilities

During this Study, it was assumed that most utilities could be relocated and that impacts were negligible for consideration of alternatives. This assumption applied to minor related facilities like power poles, sewer lines, pump stations, and irrigation canals within the corridor. Some utility facilities within the Study Area were substantial and were considered in the impact assessment while designing and evaluating the NLTC alternatives. These major facilities included:

- the Central Davis County Sewer District treatment facility in Kaysville,
- the Utah Power & Light (UPL) transmission line corridor extending the length of the Study Area,
- large irrigation canals, and
- large drainage canals.

2.1.6 Railroads

The railroad corridors located within the Study Area include the Union Pacific (UP) north/south mainline and east/west mainline, and the old Denver and Rio Grande (D&RG) railroad. The old D&RG corridor was not operating any rail traffic during the NLTC Study. However, the alternatives for this Study were developed with the assumption that all three of the rail corridors were or would be active and need to accommodate continued rail traffic.

2.2 Selection of the Initial NLTC Alignment

Upon completion of stakeholder identification, it was necessary to identify an initial NLTC alignment. This single corridor was surveyed, photographed, and studied to help evaluate NLTC sub-alternatives. The Study Team helped the AC identify and weight the evaluation criteria and then apply these criteria to select the initial NLTC alignment.

2.2.1 Evaluation Criteria

The AC identified and used a variety of evaluation criteria to complete a general screening of initial NLTC alternatives. The evaluation criteria included:

<u>Transportation System Needs</u>
Alternatives were evaluated in terms of regional mobility and in terms of conformance to transportation system planning standards like facility spacing. This criterion was considered as having high importance.

<u>Natural Environment</u>
Specific natural environment criteria included impacts to wetlands, rivers, and conservation/open space areas. This criterion was considered as having high

importance due to the wetland avoidance requirements and the community's preference to preserve open space.

Socio-Economic Criteria
This set of evaluation criteria was limited to impacts related to residential properties, business properties, farmlands, and recreational facilities (parks and golf courses). Impacts to these items were important to the AC and were considered as having high importance.

Cost of NLTC Development
Preliminary cost estimates were prepared for the most feasible alternatives. The costs included preparation of environmental documents, facility design, property acquisition cost, construction/inspection cost, and environmental mitigation cost. These were planning level estimates that were based on assumed unit costs derived from historical UDOT experience. Costs were expressed in terms of dollar values in the year 2000. They did not represent actual future costs but they served the purpose of evaluating the relative cost differences between the different alternatives. The cost criterion was considered as having low importance.

Local Government and Public Opinion
As previously mentioned, it was important to determine a NLTC location that was acceptable to most of the local governments in the Study Area. The AC provided feedback during the development of alternatives and sub-alternatives. Public opinion was also incorporated into the evaluation process to the extent that design constraints would allow. This criterion was considered as having high importance.

2.2.2 Advisory Committee Evaluation of initial NLTC Alignments

At that point in the study process, the AC had enough information to evaluate four different initial alignment alternatives. Most of the alternatives came from the WTC-MIS, so the AC evaluation was a validation of the WTC-MIS process and results. This screening process resulted in the finding that the LPA from the WTC-MIS Study was still the most desirable alternative. Chapter 3 describes the AC evaluation process and results in more detail.

2.3 NLTC Characteristics and Data Research

It was now possible for the Study Team to obtain survey, aerial photography, and other geographical data of the initial NLTC alignment. It was necessary to identify the characteristics of the NLTC alignment and any sub-alternatives.

2.3.1 Survey and Mapping

New aerial photographs were acquired and used to determine the nature of the physical and cultural landscape in the area within the initial NLTC alignment. In addition, the aerials were used as a background for the placement of various alternatives and sub-alternatives that were considered in the Study.

2.3.2 Geographical Data

Primary and secondary geographical information was gathered from a variety of sources for the development of a geographic information system (GIS) database. This information was used in the evaluation of physical and cultural environmental effects related to sub-alternatives being considered. Appendix 3E provides a detailed list of information on the following geographic items:

- county boundaries,
- city boundaries,
- existing roads,
- existing railroads,
- golf courses,
- parks,
- schools,
- wetlands,
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sites,
- underground storage tanks (UST),
- historical, State Historic Preservation Office (SHPO) sites,
- farmland (centennial, unique, state important, and prime)
- centennial farmland,
- flood plains,
- water courses,
- Great Salt Lake,
- land status,
- lakes,
- springs,
- streams,
- pipe transmission lines,
- water systems,
- wells,
- electric systems,
- gas systems,
- sewer systems,
- storm sewer systems,
- property parcels,
- county zoning boundaries,
- township/range/section grid,
- rare invertebrate species,
- rare vertebrate species,
- rare plant species,
- threatened & endangered and sensitive species,
- bird habitat, and
- mammal habitat.

2.4 Planning and Design Standards

The Study Team identified planning and design standards before detailed sub-alternatives were developed. This effort included identifying transportation system planning standards, modal options, typical cross sections, geometric design standards, and design constraints.

2.4.1 Transportation System Planning Standards

The spacing of transportation system elements is dependent upon the density of developments that they serve. However, general guidelines for grid networks can be used with the number of lanes or tracks changed to fit demand patterns. The network spacing was described in terms of a highway system but the same principles applied to a transit system.

Spacing of residential streets is generally a land use decision related to lot size and layout of the development. Collectors should be provided at approximately half-mile spacing. Arterials should be located at approximately 1 mile spacing. This would ensure that motorist do not have to travel more than a half-mile to reach and arterial. Also, it limits signal spacing to half-mile intervals, which provides more flexibility for signal timing. Freeways should be located at 4 to 6 mile spacing. Freeway interchanges should be no closer than 1 mile apart and preferably farther. Interchanges at 2 mile spacing would imply that every other arterial would connect with the freeway. This would also indicate that arterials could be subdivided into major and minor arterials. If the arterial network were comprehensive, 2 mile spacing of interchanges would not create any significant excess travel.

It was assumed that the NLTC would need access points, regardless of the transportation facility type. This includes intersections or interchanges for highways, and multi-modal stations for transit facilities. The NLTC also presents a longitudinal barrier to some existing transportation and water resource facilities. Therefore, it would be necessary to construct grade-separated crossings in order to maintain travel routes, water flow, and access routes. Chapters 4 and 5 describe probable locations of access points and grade-separated crossings along the NLTC.

2.4.2 Modal Options

This Study used information developed for the IRCAA, which evaluated the need and location for the following transportation modes along the Wasatch Front area. Any or all of the following transportation modes could be located within the NLTC. The final mode choice decision is a part of the EIS process.

Arterial Type Highway

A variety of arterial type highway facilities could fit within the NLTC limits but all highway options should be limited-access. The NLTC could be constructed in phases to match the continual growth in travel demand. The first phase of NLTC implementation could be a two-lane rural highway. Subsequent NLTC phases

could expand the facility to a four-lane divided rural highway or a six-lane divided rural highway. Typically, arterial type facilities connect with other roadways at intersections with 4-way traffic control. There would be sufficient width within the NLTC to include noise and sight buffers such as landscaped earthen berms or panel walls.

Light Rail Transit

The NLTC could accommodate light rail transit (LRT) facilities. However, this is an unlikely scenario given the low land use densities in the Study Area. The IRCAA identified better locations in Davis and Weber Counties for LRT facilities.

Freeway

A freeway could be the ultimate facility type for the NLTC. The primary difference from the arterial type highway is that the freeway has grade-separated interchanges with other arterials. There would be sufficient width within the NLTC to include noise and sight buffers such as landscaped earthen berms or panel walls.

Commuter Rail

The NLTC could accommodate commuter rail transit facilities; however, the IRCAA identified better locations in Davis and Weber Counties for commuter rail transit.

Bus Transit

The NLTC could accommodate bus type transit routes. Given the limited-access nature of the NLTC, these routes would probably be express routes that were intended to cover longer travel distances. These express routes would supplement local area bus transit service.

Park and Ride Lots

Park and Ride lots would be needed in the future but the Study did not identify park and ride lot locations. Typically, these lots are located outside of transportation corridor limits.

Non-Motorized Modes

Paved or unpaved bicycle and pedestrian facilities could be provided within the NLTC limits. Unpaved equestrian facilities could be provided within the NLTC limits.

2.4.3 Typical Cross Sections

The Study considered community growth and the associated increase in travel demand. However, the Study did not use the travel demand information to determine the type or size of facility that would be needed within the NLTC. The NLTC is wide enough to accommodate a variety of travel modes in the future as specific needs become more defined. The geometric configurations that were

evaluated were based on design criteria for rail and highway, which were the most restrictive of all the possible modes.

The Study Team developed two typical cross sections as part of the study process. The Desirable Cross Section was 328 feet (100 meters) wide and the Alternative Cross Section was 220 feet wide.

Desirable Cross Section
The desirable NLTC width of 328 feet (100 meters) was chosen to:

- match the corridor width of the Legacy Parkway,
- preserve the option for multi-modal uses within the corridor, and
- provide space for enhanced aesthetic solutions related to trails and potential noise mitigation techniques.

Two or three transportation modes could be provided within the 328 foot wide corridor. For example, the corridor could include:

- a freeway, trails, and light rail,
- light rail, trails, and noise mitigation with landscaped berms, or
- an arterial type highway, trails, and noise mitigation with landscaped berms.

Alternative Cross Section
In Weber County, the NLTC width was reduced to 220 feet based on future travel demand in this part of the Study Area. This width could accommodate up to three transportation modes; including freeway, trails, and LRT.

Characteristics of Cross Section Elements
The arterial type highway considered within the NLTC limits was a divided four-lane limited access facility with a depressed median. An example of this type of facility was Hinckley Drive (SR-79) from 1900 West to Wall Avenue in Weber County. At-grade intersections would be provided at other major and some minor crossings. Secondary routes and access driveways would be connected to frontage roads where necessary. This type of facility would require between 150 feet and 220 feet of total width depending on the width of the median provided.

The light rail facility was a double track system with a right-of-way width of 50 feet.

The freeway option considered within the NLTC was a four-lane controlled access facility with a median wide enough to provide for two additional general purpose lanes or High Occupancy Vehicle (HOV) lanes in the future. Interchanges would be provided a primary crossroads. Grade separated overpasses would be provided at other major and some minor crossings.

Secondary routes and access driveways would be collected on frontage roads where necessary. This type of facility would require between 200 feet and 220 feet of space inside the overall width of 328 feet.

At interchanges, an additional width of 150 feet would be required for each on-ramp and off-ramp (total corridor width of 628 feet at interchanges). This additional width is necessary for approximately ¼ mile in either direction of the crossroad. For this Study, the approximate generic interchange footprint is 628 feet wide by 2500 feet long. Exact corridor preservation boundaries for interchanges were not included in this Study and further study is necessary as part of the EIS.

A trail system, which included facilities for bicycles, pedestrians, and equestrians, could be accommodated within a width of 40 feet. This width would include some meander in the trails. Additional width would allow for increased aesthetic considerations in the design of the trail system.

A utility corridor could be included along the edge of the corridor, with access from outside the corridor, or inside the corridor as part the space between the various modes. A width of 20 feet could accommodate several utilities. Additional width may be required for large pipelines or other facilities.

Landscaped berms for noise and sight mitigation could be accommodated in 60 to 70 feet of width for each berm. This assumes a 10 foot high berm with 3:1 slopes on both sides.

2.4.4 Geometric Design Standards

The Study Team evaluated NLTC alignment, property width, and grades for potential transportation facilities using the latest federal, state, and local geometric standards. The Study Team identified design standards; but they varied, based on the type of facility, the characteristics of the facility and the geography of the Study Area. UDOT approved the geometric design criteria, which are shown in Appendix 3A.

LRT was considered instead of heavy rail since the preferred location for a commuter rail line was along the existing UP or old D&RG rail corridors, according to the IRCAA. If rail is included in the NLTC, it would more likely to be a light rail spur serving the Study Area.

2.4.5 Design Constraints

NLTC design alternatives were constrained by some of the items described in this chapter. Alignment designs had to conform to geometric standards, they had to be configured to provide reasonable access points at logical locations along existing east-west arterials, and they needed enough width to accommodate the cross-sectional needs. Certain large utility facilities, existing developments, and prime agricultural lands were design constraints.

Wetland impacts were important from a fatal flaw perspective. In fact, wetland impacts were a design constraint because it was important to identify a NLTC location that could be permitted in the future. A primary design constraint was avoidance of the USACOE identified wetlands. It was not possible to avoid all the wetlands in the Study Area, so each sub-alternative was evaluated in terms of unavoidable wetland impacts.

2.5 Development and Evaluation of NLTC Sub-Alternatives

The Study Team compiled all the previously described information, materials, and standards in order to develop NLTC sub-alternatives. The Study team met with local government officials to determine a variety of acceptable NLTC sub-alternatives. In some parts of Davis County, the initial NLTC alignment was acceptable so sub-alternatives were not developed. The sub-alternatives had to address the needs and requirements of the proposed transportation facility.

The AC reviewed and screened a variety of sub-alternatives before they were presented to the public. The AC met in a working session to review and modify the possible NLTC sub-alternatives that were developed by the Study Team. It was agreed that a public review of the sub-alternatives was important at that point in the Study process. The AC helped develop public meeting content, format and method of public notification. Chapters 4 and 5 provide a detailed description of this process.

2.6 Public Involvement Process

Public input was an important part of the Study process because comments from citizens and their elected officials helped shape the study process and results. The Study Team and AC offered two sets of formal public meetings during the study. The first set of meetings was conducted after development of NLTC alternatives and the second set of meetings were conducted after development of the NLTC sub-alternatives.

Due to the size of the Study Area, the AC agreed to conduct public meetings in two locations (one in each County). These open houses were announced to the citizenry through utility billings, newsletters, and in the daily and local newspapers. Maps, aerial photographs, map location of alternatives, written material and other resources about the study and the NLTC were available at these open house meetings. The Study Team prepared three separate Public Meeting Summary Reports to document public input (Appendices 1A, 1B, and 1C).

2.6.1 Initial Public Meetings

The first round of public meetings included two separate, but similar, meetings in order to obtain public input on the NLTC alternatives. This activity generated comments from some of the study area's state Senators and Representatives. Comments from citizens and elected officials in Weber County changed the course of the NLTC study.

Public Open House #1 – Davis County

The first Davis County Public Information Meeting was held on June 21, 2000 (4 P.M. to 8 P.M.) at the Davis County Fairgrounds. The open house meeting format allowed for information exchange between the Study Team, the AC, and local residents. Approximately 134 people attended the meeting (per the sign-in log sheet), and 70 comments were received at the meeting. The public submitted 5 additional comments after the meeting. The Study Team and AC presented the following information to the public.

- current study limits,
- study process,
- current sub-alternatives under consideration,
- overall NLTC development process and timing (through construction), and
- corridor preservation process.

In general, most people supported the need for a transportation facility in the general location of the NLTC. Most of the comments were related to the specific location of the NLTC. Appendix 1A provides a summary of Public Open House #1.

Public Open House #2 – Weber County

The first Weber County Public Information Meeting was held on June 28, 2000 (4 P.M. to 8 P.M.) at the Weber County Fairgrounds. The open house meeting format was exactly the same as Public Open House #1. Approximately 129 people attended the meeting (per the sign-in log) and 75 comments were received at the meeting. The public submitted 84 additional comments after the meeting.

A thorough review of all the specific comments indicated that approximately two-thirds of those commenting did not want the NLTC to be identified or preserved. Approximately one-third supported corridor identification and preservation. Residents did not want the NLTC to be preserved for the following reasons:

1. “just didn't want it”,
2. preferred transit options instead (they didn't perceive the multi-modal capabilities of the NLTC),
3. didn’t like farm impacts and/or degradation of rural character,
4. didn’t like residential impacts,
5. didn’t like wetland and/or habitat impacts, and
6. concerned about impact to their property values.

Appendix 1B provides a summary of Public Open House #2.

Input from State Senators and Representatives from Weber County

A State Senator and a Representative prepared a letter that opposed the NLTC study process in Weber County. They suggested that the Study Team evaluate different alternatives in Weber County. These new alternatives were outside the limits of the previously identified NLTC alignment and became known as the "Build ½ NLTC Alternative" and the "Build ¾ NLTC Alternative."

2.6.2 Response to Initial Public Comments

Davis County communities supported the NLTC Study so the remaining effort in Davis County determined the location of the Final NLTC Alignment. In Weber County, based on public and political comments, the Study process was divided into two separate efforts. Some communities did not support the Study process, so the process required the evaluation of some additional alternatives before detailed NLTC sub-alternatives could be pursued.

Based on the strong support for NLTC identification in Davis County, the Study Team continued to develop and evaluate sub-alternatives in Davis County. Several meetings were held with local government officials and affected stakeholders like the Shepard Lane Citizens Group. The remaining sub-alternatives were evaluated and screened to create a locally preferred location for the Final NLTC Alignment in Davis County. Chapter 4 describes this process in more detail.

Unlike the study process in Davis County where sub-alternatives were evaluated, the Weber County effort continued to identify and evaluate broad alternatives before detailed sub-alternatives were pursued. The AC agreed to this approach and the Study Team developed and evaluated new NLTC alignment options through Hooper, West Haven, and Roy.

The Study Team presented the results of the new alignment evaluation to the Weber County portion of the AC. None of the new alternatives were acceptable to the AC so another alternative was developed that combined parts of other alternatives. The Study Team evaluated this combined alternative and then developed the concept to widen and extend existing arterials in Weber County, rather than implementation of a single transportation corridor (NLTC). Another meeting was held with the Weber County portion of the AC where consensus was reached on a combination of shorter and narrower NLTC along with an expansion of the existing arterial system. This became known as the Modified Weber County Arterial Plan.

Given the view of the majority on the location and size of the NLTC alignment in Weber County, the Study team developed sub-alternatives in the area near 5100 West, south of 12th Street. Meetings were held with Hooper, West Haven, and Taylor Township to identify a mutually acceptable NLTC sub-alternative. Chapter 5 describes this process in more detail.

The entire AC (representatives from Davis and Weber Counties) reviewed the new NLTC sub-alternatives prior to the next round of public meetings

2.6.3 Public Review of the NLTC Sub-Alternatives

Given that a specific NLTC alignment had been identified in both Davis and Weber Counties, the AC agreed to present the latest Study information to the public.

Two additional open houses were announced to the citizenry through utility billings, newsletters, and in the daily and local newspapers. Maps, aerial photographs, map location of alternatives, written material and other resources about the study and the corridor were available at these open house meetings. The Study prepared one Public Meeting Summary Report for both meetings as a separate document (Appendix 1C).

Public Open House #3 – Davis County

The second Davis County Meeting was held on February 21, 2001 at Syracuse City Hall (4:00 P.M. to 7:00 P.M). Approximately 162 people attended the meeting (per the sign in log) and 40 comments were received at the meeting. The questionnaire asked for any comments that pertained specifically to corridor preservation aspects of the study.

The public comments in Davis County included a variety of recommendations for changes to the location of the corridor, the type of mode within the corridor (highway vs. rail), and the need for property owners to be treated equitably. In general, Davis County citizens supported the Study effort to identify the NLTC location.

Public Open House #4 – Weber County

The second Weber County Meeting was held on February 28, 2001 at the Hooper Elementary School (5:00 P.M. to 8:00 P.M.). This was the first time that the public saw the Modified Weber County Arterial Plan. Approximately 333 people attended this meeting, from which 143 comments were received. Two external groups (not associated with the Study Team) attended this meeting. A group of citizens offered their information on a table located outside of the entrance to the official meeting. The State of Utah Private Property Ombudsman attended the meeting to inform people that statutory information related to corridor preservation was available.

The majority of comments were opposed to the NLTC in any location or width. Even at this late date, some comments opposed the plan to expand the existing arterial system in Weber County, as requested by local jurisdictions involved in the study process.

Study Changes in Response to Final Public Comments

The AC and Study Team carefully reviewed the public comments from Davis and Weber Counties. The Study Team concluded that it was in the best public interest to proceed with the NLTC sub-alternative that was presented to the public in the second round of meetings.

2.7 Selection of the Final NLTC Alignment

The Study Team worked with local governments to make small changes to the NLTC alignment in order to minimize impacts and to correct minor mistakes or inaccuracies in the NLTC drawings. This resulted in the Final NLTC Alignment.

2.8 Final Study Documentation

The Study Team then prepared final NLTC mapping that was sent to resource agencies. There were no requests for additional information or separate meetings from any of the resource agencies so the Final NLTC Alignment appeared acceptable to a wide range of stakeholders. This report was developed to accompany the NLTC drawings. The Study Team presented and explained the final report and mapping to the AC at a final meeting held on August 15, 2001. At the meeting, the AC members received a full copy of the final report and mapping in printed and electronic formats.

3 Initial NLTC Alternatives (Davis & Weber Counties)

The process of selecting the Final NLTC Alignment started with a broad look at the Study Area and the definition of general NLTC alternatives. These alternatives were relatively wide and included many different sub-alternatives. This chapter describes the first step in the evaluation and screening process, selection of the initial NLTC alignment location. The second step was the identification and evaluation of NLTC sub-alternatives within the initial alignment, as described in Chapters 4 and 5.

3.1 Previously Identified Corridor Alternatives

The WTC-MIS produced a Final Set of Alternatives and a LPA. The AC validated these results at the beginning of the Study process.

3.1.1 Final Set of Alternatives from WTC-MIS

During the WTC-MIS process, transportation corridor alternatives were screened to produce the following final set of alternatives, including:

No Build Alternative
The No Build Alternative included all improvements identified in the 2020 LRP. This alternative provided a baseline for comparison of the other alternatives.

Transportation System Management (TSM) Alternative
The TSM Alternative provided a low-capital-cost option that increased the range of local and express bus services, provided bus transit priorities on major streets, and increased utilization of the county's existing and planned transit system.

East Commuter Rail Alternative
Under this alternative, the existing D&RG rail line would be used for commuter rail service. This alternative extended from Salt Lake City to Ogden.

Central Roadway Alternative
This alternative called for a new roadway through the center of the Study Area from I-80 to I-15 at the Hot Springs Interchange. Also, improvements to other existing facilities were included. The Central Roadway Alternative was located on the eastern side of Plain City and included two location options; the West Point Variation and the Plain City Variation.

West Roadway Alternative
This alternative called for a new roadway through the western side of the Study Area from I-80 to I-15 at the Hot Springs Interchange. The West Roadway Alternative went on the western side of Plain City and included nine location variations.

3.1.2 Locally Preferred Alternative from the WTC-MIS

The WTC-MIS resulted in an LPA that was based on the analysis of the various alternatives and their ability to meet the stated purpose and need. The result was an LPA that combined elements of several alternatives, as described below and shown on Figure 2:

- develop a new roadway along the western side of the Study Area,
- preserve the "East Commuter Rail Alternative" corridor, and
- increase commuter bus service.

The recommended roadway combined portions of both the Central Roadway Alternative and the West Roadway Alternative. It followed the West Alternative in the southern portion of the Study Area as far north as the Bluff Road/Gentile Street intersection. It then followed the Central Alternative along Bluff Road and through West Point. In Weber County, the roadway generally followed 4900 West and extended northeast from 4000 South to 12th Street at 2700 West.

The transit elements of the LPA were evaluated in more detail by WFRC as part of the IRCAA.

3.2 New NLTC Alternative – Power Line Corridor

The USACOE requested the evaluation of one additional corridor alternative. It appeared reasonable to use the property located within the existing Power Line Corridor that runs in a north-south direction within the Study Area. This alternative would have reduced the need for another new north-south corridor and its associated impacts. Based on information provided by the Study Team, the AC compared the Power Line Corridor Alternative to other previously identified corridors.

Insert figure 2

3.3 Evaluation of the Initial NLTC Alternatives

The AC agreed that the following alternatives should be evaluated. Figure 3 shows these alternatives.

Bluff Road East Alternative
This alternative followed an alignment along the eastern side of Bluff Road.

Bluff Road West Alternative
This alternative followed an alignment along the western side of Bluff Road.

Power Corridor Alternative
This alternative utilized the existing UPL Power Line right-of-way for the transportation corridor. This option required the existing overhead power transmission lines to be buried or relocated. Typically, these types of power lines were not buried due to significant cost.

The power corridor through Davis and Weber Counties contains 138 kV and 345kV power transmission lines. UPL indicated that the largest buried transmission lines to date were 138 kV. It would cost approximately $10 million per mile to bury the transmission lines, which is prohibitive given a 30 mile long Study Area.

Western Loop Alternative
This alternative considered a western option to the Bluff Road Alternative. It maximized the developable area between I-15 and the NLTC.

The AC used an evaluation matrix process to select the initial NLTC alternative. This process included the identification of weighted evaluation criteria and a ranking of each criterion against each alternative. These assessments were placed into a matrix type table and overall results were calculated. Appendix 3B shows the completed evaluation table.

The Bluff Road West Alternative was ranked first based on average cost, average benefits, and low impacts. The Bluff Road East Alternative was ranked second based on higher cost, average benefits, and higher impacts. The Western Loop Alternative was ranked third based on higher cost, average benefits, and higher impacts, including high wetland impacts. The Power Corridor Alternative ranked last because it had fatal-flaw cost implications and higher impacts. Relocation of existing transmission lines would have been necessary to accommodate the proposed transportation facility. The underground relocation would cost approximately $300 million alone.

Insert fig 3

3.4 Conclusion

This initial evaluation of NLTC alternatives validated the LPA that was identified in the WTC-MIS. However, the identification and evaluation of sub-alternatives took different paths in Davis County and in Weber County.

Davis County

The decision to select the Bluff Road West Alternative remained the same in Davis County throughout the Study process. Chapter 4 describes the screening process that was used in Davis County to select the preferred NLTC sub-alternative within the Bluff Road West Alternative.

Weber County

The process of selecting a preferred alternative was more problematic in Weber County than in Davis County. There was considerable opposition by the Weber County AC representatives and other local officials to a single corridor alignment from the Weber/Davis County line to I-15 near the Hot Springs interchange. It was agreed to widen and/or extend the existing arterial system instead of relying on one large transportation corridor. For this reason, the NLTC width narrows at 5500 South near the Davis/Weber County Line and then terminates at 12th Street near 5100 West. Chapter 5 describes the screening process that was used in Weber County to select the Final NLTC Alignment.

4 Davis County Corridor Selection

As previously mentioned, the AC selected the Bluff Road West Alternative as the preferred NLTC alignment. The “Bluff” is a geographical feature that parallels the shore of the Great Salt Lake and it has been the historically preferred location of a new transportation corridor. West Point City has been preserving a corridor in this location for a few years based on the recommendations in the WTC-MIS. The next step in Davis County was the identification and evaluation of sub-alternatives within the Bluff Road West Alternative.

The Davis County portion of the NLTC was divided into three segments for coordination and evaluation of NLTC sub-alternatives, as described in the following sections. The NLTC access point and grade-separated crossing locations are described at the end of this section for the entire Davis County segment of the NLTC.

4.1 Farmington-Kaysville Segment

This segment includes the area from the northern end of the Legacy Parkway in Farmington to the Kays Creek Subdivision near Kaysville. The southern end of the NLTC is planned to connect with the Legacy Parkway. However, the southern end of the NLTC is not planned to connect with I-15 because of other system-to-system connections in Farmington. The NLTC location was fixed near Shick Lane due to the narrow space between a large wetland and the Kays Creek Estates residential subdivision.

4.1.1 Farmington-Kaysville Sub-Alternatives

Figures 4-1 through 4-3 provide diagrams of the following sub-alternatives, which are described from a south to north orientation.

Sub-Alternative A (Kaysville A)
This sub-alternative runs parallel to the western side of I-15 from I-15/US-89 interchange to the Burke Lane overpass. It proceeds northwest on a path that runs south of the Shepard Lane residential subdivision and north of the Davis County Sewer District treatment facility. Sub-Alternative A continues in a northwest direction along the eastern side of the existing Power line Corridor. It crosses to the western side of the Power line Corridor at the 750 South/2000 West intersection. It then proceeds further west to match Shick Lane on the western side of the Kays Creek Estates Subdivision.

Sub-Alternative B (Kaysville B)
This sub-alternative runs parallel to the western side of I-15 from I-15/US-89 interchange to the Burton Lane overpass. It then proceeds west on a path through vacant land. Sub-Alternative B crosses to the western side of the Power line Corridor near Roueche Lane. It continues in a northwest direction along the western side of the existing Power Line Corridor and then proceeds farther west to match Shick Lane on the western side of the Kays Creek Estates Subdivision.

Sub-Alternative C (Kaysville C)
This sub-alternative is similar to Sub-Alternative A except that it crosses to the western side of the Power Line Corridor near Roueche Lane. It continues in a northwest direction along the western side of the existing Power Line Corridor and then proceeds farther west to match Shick Lane on the western side of the Kays Creek Estates Subdivision.

Sub-Alternative D (Kaysville D)
This sub-alternative is similar to Sub-Alternative C except that it is not parallel to the Power Line Corridor.

Sub-Alternative E (Kaysville E)
This sub-alternative is parallel to the western side of I-15 from I-15/US-89 interchange for a short distance (well south of the Burke Lane overpass). It then proceeds northwest on a path that runs south of the proposed Farmington Maintenance Yard and the proposed Kaysville Industrial Park. It continues northwest to a point north of the Davis County Sewer District treatment facility. The northern end of this alternative is similar to Sub-Alternative C.

Sub-Alternative F (Kaysville F)
This sub-alternative is similar to Sub-Alternative C with a smaller radius curve from the section parallel to I-15. This sub-alternative was developed in an attempt to reduce impacts to the proposed Kaysville Industrial Park. The geometry of this sub-alternative did not conform to the NLTC Design Standards so an impact evaluation was not completed and it was dropped from further consideration.

Sub-Alternative G (Kaysville G)
This sub-alternative is similar to Sub-Alternative C except that it extended farther along the western side of the Power Line Corridor before swinging farther west to match Shick Lane on the western side of the Kays Creek Estates Subdivision. This sub-alternative was developed in an attempt to reduce impacts to the wetlands located west of the Power Line Corridor.

Sub-Alternative H (Kaysville H)
This sub-alternative runs parallel to the west side of I-15 from I-15/US-89 interchange for a short distance (well south of the Burke Lane overpass). It then proceeds in a northwest direction running just south of the proposed Farmington Maintenance Yard and the proposed Kaysville Industrial Park. It continues west to the south and west of the Davis County Sewer District treatment facility. The northern end of this sub-alternative is similar to Sub-Alternative C.

Insert fig 4-1

Insert fig 4-2

Insert fig 4-3

4.1.2 Evaluation of Sub-Alternatives

The Study Team used an impact summary table to quantify the impacts associated with each sub-alternative (see the "Farmington-Kaysville" Table in Appendix 3C). This process included the evaluation criteria set by the AC. It was clear that some alternatives created fatal-flaw impacts that resulted in their elimination from further consideration.

- Sub-Alternative B impacted many more existing homes and was deemed unacceptable by the Study Team.
- Sub-Alternative F included geometry that did not conform to the NLTC Design Standards and was deemed unacceptable by the Study Team.
- Sub-Alternative H impacted many more wetland areas and was deemed unacceptable by the USACOE.

4.1.3 Selection of the Final NLTC Alignment

The sub-alternative impact information was presented to a group of specific stakeholders at a meeting held on November 15, 2000, at the Central Davis County Sewer District Facility. Meeting attendees included representatives from Farmington, Kaysville, Davis County, the Central Davis County Sewer District, the Study Team, and citizen representative, Arthur Johnson. Representatives from the Shepard Lane Neighborhood Group and the Nature Conservancy were invited but did not attend the meeting. This segment was divided into two sections for discussion purposes.

With respect to the area south of the Davis County Sewer District Treatment Facility, it was agreed that Sub-Alternative C was the most acceptable alignment for the following reasons:

- 5 acres less wetland impacts,
- preferred by Farmington,
- acceptable to Kaysville,
- acceptable to Central Davis County Sewer District,
- Sub-Alternative H, located west of the sewer plant, would not be permittable in the future, and
- fewer home impacts.

With respect to the area north of the Davis County Sewer District, parallel to the Power Line Corridor, it was agreed that Sub-Alternative C was the most acceptable sub-alternative as a compromise solution. The local governments and property owners wanted an alignment located further west and the Nature Conservancy wanted an alignment located further east. Therefore, Sub-Alternative C was preferred in the Farmington-Kaysville Segment of the NLTC.

4.2 Layton-Syracuse Segment

This segment includes the area from the Kays Creek Subdivision in Layton to 700 South at the Syracuse/West Point border. The northern end of this segment is fixed by the location of the transportation corridor that had been preserved by West Point. The sub-alternatives in the Layton-Syracuse Segment generally follow Bluff Road.

4.2.1 Layton-Syracuse Sub-Alternatives

Figures 4-3 through 4-5 provide diagrams of the following sub-alternatives, which are described from a south to north orientation.

Sub-Alternative A (Layton-Syracuse A)
This sub-alternative runs adjacent and parallel to the eastern side of Bluff Road from the Kays Creek Subdivision to 2200 West (Layton). It then crosses to the western side of Bluff Road and followed the western side of Bluff Road to a control point on Antelope Drive. The control point was set on Antelope Drive at a midpoint between 3000 West and Bluff Road in order to allow adequate space for a NLTC access point on Antelope Drive. Sub-Alternative A then proceeds northwest along the western side of Bluff Road until 700 South/Bluff Road intersection at the Syracuse/West Point border.

Sub-Alternative B (Layton-Syracuse B)
This sub-alternative is similar to Sub-Alternative A except for a few minor variations. It is located approximately 50 feet east of Sub-Alternative A near the Bluff Road/Gentile Street intersection. Also, it has a reduced angle at the Antelope Drive crossing control point, which forced the curve north of Antelope Drive to be located farther east. The control point was set on Antelope Drive at a midpoint between 3000 West and Bluff Road in order to allow adequate space for a NLTC access point on Antelope Drive. Sub-Alternative B then proceeds northwest along the western side of Bluff Road until 700 South/Bluff Road intersection at the Syracuse/West Point border.

Sub-Alternative C (Layton-Syracuse C)
Sub-Alternative C was developed to evaluate an option with less wetland impacts. This sub-alternative runs adjacent and parallel to the eastern side of Bluff Road from the Kays Creek Subdivision to 2200 West (Layton). It then proceeds in a northwest direction through residential subdivisions and vacant land. The Antelope Drive crossing is located near the existing intersection with 500 West (Syracuse). It crosses to the western side of Bluff Road near the Bluff road/3000 West intersection. Sub-Alternative C then proceeds northwest along the western side of Bluff Road until 700 South/Bluff Road intersection at the Syracuse/West Point border.

Sub-Alternative D (Layton-Syracuse D)

This sub-alternative is similar to Sub-Alternative B except for one variation that avoids an existing subdivision. It is located to the east of Sub-Alternative B in the area north of Gentile Street.

Insert fig 4-3

Insert fig 4-4

Insert fig 4-5

4.2.2 Evaluation of Sub-Alternatives

The Study Team used an impact summary table to quantify the impacts associated with each sub-alternative(see the Layton-Syracuse Table in Appendix 3C). This process included the evaluation criteria set by the AC. The sub-alternatives in the Layton/Syracuse Segment were split between impacts to homes and farmlands, and impacts to wetlands. Sub-Alternatives A and B impacted more wetlands. Sub-Alternatives C and D impacted substantially more homes and farmlands. Sub-Alternatives C and D were deemed unacceptable by the Study Team due to the large increase in the impacts to homes.

4.2.3 Selection of the Final NLTC Alignment

The Study Team worked with Syracuse City to develop a NLTC location that minimized impacts. However, some impacts were unavoidable in the area north of Antelope Drive. It was agreed that Sub-Alternative A was the best option even though it impacted two holes of the Glen Eagles Golf Club and some existing homes in the Stonehaven subdivision. The following list provides the justification for selection of Sub-Alternative A.

<u>Geometric Constraints</u>

- Highway interchange or intersection location on Antelope Drive

  Although it had not been determined if the NLTC would include a highway, the Study Team needed to identify a NLTC location that would accommodate a highway type facility. Antelope Drive was anticipated to be a major arterial and would certainly need an interchange or intersection type access point to the NLTC if a highway were to be constructed. The best location for the interchange or intersection on Antelope Drive would be between the existing 3000 West Intersection and the existing Bluff Road Intersection. This point was a fixed geometric constraint.

- Match the corridor location that was preserved by West Point

  The city boundary between Syracuse and West Point was located on 700 South. West Point City had preserved a 400 foot wide corridor along Bluff Road. The Study Team had an obligation to use this location and Sub-Alternative A matched West Point's preserved corridor location.

<u>Syracuse City Preference</u>

Syracuse City preferred Sub-Alternative A because this location was farther away from a city park. In addition, an alignment located east of Bluff Road would have created a sliver of city property that would have been difficult to service.

Additional Property and Wetland Impacts Associated with a Location Farther East

An alignment on the eastern side of the Stonehaven subdivision would have impacted more homes. Given the fixed geometric location constraint on Antelope Drive, this alignment was located farther west on the southern side of Antelope Drive. More wetlands located south of Antelope Drive would be impacted with an alternative located on the eastern side of the Stonehaven subdivision.

Additional Surface Street System Impacts Associated with Alignment Further East

Sub-Alternative A avoided impacting two existing intersections: Bluff Road/Antelope Drive and Bluff Road/3000 West. It was desirable to keep these intersections in place along with the section of Bluff Road between them. These existing facilities would remain in place to provide local traffic movements and access to adjacent properties. The NLTC facility would be limited-access so it would not provide access to adjacent properties.

4.2.4 Layton Modification of the Preferred Sub-Alternative (A)

Sub-Alternative A was presented to the public at a scale that showed minor impacts to properties in Layton. Adjustments were made to Sub-Alternative A to avoid these impacts. In addition, Layton City requested that Sub-Alternative A be shifted east to be located directly over the Bluff (centerline of NLTC matched the existing Bluff Road alignment) from 2200 West to the Harmony Bluffs subdivision. This change was made by shifting this portion of Sub-Alternative A approximately 150 feet to the west.

Therefore, Modified Sub-Alternative A was the preferred alignment in the Layton-Syracuse Segment of the NLTC.

4.3 West Point Segment

This segment includes the area within West Point from 700 South at the Syracuse/West Point border to 1800 North at the northern end of West Point. West Point has been preserving a transportation corridor 400 feet wide along the western side of the Bluff since completion of the WTC-MIS. The alignment location in this segment was fixed by the location of the transportation corridor that had been preserved by West Point. The sub-alternative in the West Point Segment generally follows Bluff Road, as shown in Figures 4-5 and 4-6. Only one sub-alternative was identified and evaluated in this Segment. The “ West Point” Table in Appendix 3C shows the impacts of the Final NLTC Alignment, which included 4 home impacts and approximately 4 acres of wetland impacts.

The sub-alternative along the Bluff was the preferred alignment in the West Point Segment. Small alignment adjustments were made to match the Hooper Canal property line.

Insert fig 4-5

Insert fig 4-6

4.4 Unincorporated Davis County Segment

The Unincorporated Davis County Segment is located between 1800 North and the Davis County/Weber County Line. The West Point portion of the corridor ends at 1800 North and the NLTC alignment shifts to the east, north of 1800 North. Therefore, the NLTC alignment transition into Weber County actually occurs in this small piece of Davis County. Chapter 5 includes the discussion of sub-alternatives for this segment.

4.5 Location of Access Points in Davis County

The NLTC could include access points at the following locations in Davis County:

- connection to Legacy Parkway near the I-15 Interchange in Farmington,
- Shick Lane in Kaysville,
- 2700 West in Layton,
- Antelope Drive in Syracuse,
- 200 South Connector in Syracuse (near 500 South), and
- 1800 North in West Point.

The access points could be arterial roadway intersections, freeway interchanges, or transit stations. The EIS would determine the final locations of these access points based on the need to maintain property access.

4.6 Location of Grade-Separated Crossings in Davis County

The NLTC could include grade-separated crossings at the following locations in Davis County:

- 1525 West in Kaysville,
- 2000 West in Kaysville,
- 3200 West in Davis County,
- Gentile Street in Syracuse,
- 2000 West in Syracuse,
- 300 North in Syracuse,
- 1300 North in West Point, and
- 2425 North in West Point.

The EIS will determine the final locations of these crossings, based on transportation system requirements and adjacent property access issues.

5 Weber County Corridor Selection

The process of selecting the Final NLTC Alignment was performed in a manner consistent with the standard transportation planning process. This started with a broad look at the Study Area and the definition of initial alternatives. These corridors were relatively wide and each corridor could include many specific sub-alternatives. Chapter 3 describes the first step in the screening process, which resulted in selection of an initial NLTC alignment. However, the Weber County evaluation process was more problematic than the process in Davis County. It was necessary to revisit NLTC alternatives in Weber County after some specific sub-alternatives were identified.

5.1 Development of New Weber County Corridor Alternatives

The Study Area was expanded soon after the Study started from 12th Street to the Hot Springs Interchange, at the Weber/Box Elder County line. At that point in the Study, the preferred NLTC alternative in Weber County was a combination of the Bluff Road West Corridor Alternative south of 12th Street and the Power Line Corridor north of 12th Street. The Power Line Corridor in Weber county was located in mostly vacant land so it was different from Davis County were the corridor runs though a densely developed area. In Weber County, this meant that the transportation corridor could be located directly next to the Power Line Corridor without the need to relocate existing utilities. It did not create a new north-south community barrier, and did not impact a large number of existing homes or businesses, as was the case for the Power Line Corridor in Davis County. This concept became part of the "Build Full NLTC" alternative that is described later in this Chapter.

Local government and citizen concerns led to the identification and evaluation of new corridor alternatives in Weber County. It was not possible to obtain agreement on the location of one large transportation corridor in Weber County. In fact, the cities of West Haven and Marriott-Slaterville insisted that they did not need or want the NLTC. This position was supported by the general public and by their representatives in the Utah Legislature. At this point, it became necessary to develop new corridor alternatives, which could be supported by local governments and citizens in Weber County. Subsequently, the Study Team identified five such alternatives for further evaluation.

5.2 Identification of New Weber County Corridor Alternatives

Table 5 lists the broad NLTC alternatives that the Study Team evaluated in more detail, including a NLTC no-build option, before specific sub-alternatives could be identified. The existing conditions were evaluated as a reference point. Some of the new alternatives had various sub-alternatives. All of the new NLTC alternatives and sub-alternatives are shown in Figure 5.

Insert figure 5

Table 5 - New NLTC Alternatives in Weber County

Alternative	Number
Existing Conditions (1996)	1
No Build NLTC with widened I-15	2
Build Full NLTC	3
Build ½ NLTC	4
Build ¾ NLTC	5

Existing Conditions (1996) – Alternative 1

This option was evaluated from a mobility perspective in order to provide a base condition in evaluating the congestion related to other alternatives. It is easier to understand congestion in terms of the existing conditions that drivers experience every day. The mobility analysis was based on traffic characteristics produced by the 1996 WFRC Regional Travel Demand Model. The Study Team did not develop any costs or impacts for this alternative.

No–Build NLTC with widened I-15 (2030) – Alternative 2

This alternative was the future base condition. It was assumed that the roadway network would be improved as indicated in the current LRP (2020), including a 6-lane I-15, between 30th Street and 2700 North. Population and employment projections for the year 2030 were used to predict travel demand in 2030. The NLTC was not included in this alternative. This Alternative provided the future base condition against which other corridor alternatives could be compared.

As requested by the AC, the Study Team evaluated I-15 to determine if it could be widened to accommodate all future travel demand within the Study Area. The NLTC was not included in this alternative. The mobility analysis for this alternative indicated that I-15 did not accommodate all future travel demand and that other existing north-south and east-west roadways within the Study Area would need to be widened, or new ones constructed, to provide an overall transportation system with acceptable congestion levels. The need for other roadway improvements increased with the offset and spacing distance from I-15 to the other roadways.

Build Full NLTC (2030) – Alternative 3

This alternative was developed to identify the benefits and impacts of the Full NLTC, which was defined as a 30-mile long, 4-lane, grade-separated highway from Farmington to Willard Bay. The location generally followed the same path as the LPA identified in the WTC-MIS, with a northern extension along the Power Line Corridor to the Hot Springs Interchange. With this alternative, it was assumed that the roadway network would be improved as indicated in the current LRP (2020), including I-15 widening to a 6-lane facility south of 2700 North. Population and employment projections for the year 2030 were used to predict travel demand in 2030.

The mobility analysis for this alternative indicated that improvements to other arterial and collector roadways within the Study Area would be required, in addition to the NLTC.

Build ½ NLTC (2030) – Alternative 4

This alternative was developed to identify the benefits and impacts of a partial NLTC, which was defined as an 18-mile long, 4-lane, grade-separated highway from Farmington to 5600 South in South Weber County. Vehicular traffic in Weber County would be forced to use arterial roadways alone. With this alternative, it was assumed that the roadway network would be improved as indicated in the current LRP (2020), including I-15 widening to a 6-lane facility up to 2700 North. Population and employment projections for the year 2030 were used to predict travel demand in 2030.

The mobility analysis indicated that there would need to be some improvements (widening and extensions) to existing arterial and collector roadways within the Study Area to provide a system with limited congestion.

Build ¾ North Legacy (2030) – Alternative 5

This alternative was developed to identify the benefits and impacts of another partial North Legacy Corridor, which was defined as a 22-mile long, 4-lane, grade-separated highway from Farmington to the northern end of Roy at the existing 30/31st Street Interchange with I-15. This corridor follows Hinckley Drive north of the Ogden Airport. Several different routes were evaluated for this alternative, which traverses the middle of West Haven and Roy. It was assumed that the roadway network would be improved as indicated in the current LRP (2020), including I-15 widening to a 6-lane facility south of 2700 North. Population and employment projections for the year 2030 were used to predict travel demand in 2030.

The initial mobility analysis indicated that improvements to other arterial and collector roadways within the Study Area, would be required, in addition to the NLTC, to provide an overall transportation system with acceptable congestion.

5.3 Evaluation of New Weber County Corridor Alternatives

The Study Team performed a fatal-flaw screening of the new NLTC alternatives based on the stated need to provide a transportation facility in western Weber County. NLTC Alternative 2 (No–Build NLTC with widened I-15) and Alternative 4 (Build ½ NLTC) did not adequately address the need for a transportation corridor in the western part of Weber County, nor did they accommodate the future travel demand. Mobility benefits, impact evaluations, and cost estimates were not prepared for these NLTC alternatives. However, this type of information was prepared for Alternative 3 (Build Full NLTC) and for Alternative 5 (Build ¾ NLTC).

Mobility Benefits

The WFRC provided the mobility analysis by evaluating the corridor alternatives with the (preliminary) regional 2030 regional travel demand model. Table 6 provides the results of this analysis, which are expressed in terms of vehicle miles traveled (VMT) and system-wide vehicle delay. These two measures of effectiveness were based on the "4-period" travel conditions within the Study Area.

Table 6 – Mobility Evaluation Summary for New NLTC Alternatives

New Alternative	No.	VMT	Delay (hours)
Build Full NLTC	3	11,014,437	21,469
Build ¾ NLTC	5	10,934,681	25,623

It is important to note that exact travel estimates within western Weber County were difficult to predict for the 2030 condition. The travel projections were based on local land use plans, which identify future planned development densities and growth patterns. Some communities in the Study Area planned on remaining mostly agricultural in nature; but actions by individual property owners and developers may lead to higher density residential and commercial development.

The mobility evaluation indicated that the Build Full NLTC Alternative provided the least amount of system-wide vehicle delay with a relatively small increase in overall VMT.

Planning Level Cost Estimates

Table 7 provides preliminary cost estimates for alternatives 3 and 5. These were total program costs that included environmental approvals, design, property acquisition costs, construction, environmental mitigation, and construction inspection. It is important to note that these were planning level estimates that were based on assumed unit costs derived from historical UDOT experience. Costs are expressed in terms of dollar values in the year 2000. They do not represent actual future costs but they serve the purpose of evaluating the relative cost differences between the different alternatives. The estimated costs included costs associated with I-15 (beyond the 6-lane costs that were included in the base condition) and costs associated with the NLTC.

Table 7 – Cost Estimate Summary for new NLTC Alternatives

New Alternative	No.	Estimated Cost (Million $)
Build Full NLTC	3	1,025
Build ¾ NLTC	5	889

As expected, the Build ¾ NLTC Alternative was the least expensive alternative.

Impact Determination

Table 8 provides preliminary impact estimates for alternatives 3 and 5. All of the impacts associated with these alternatives were not identified. Rather, the focus was limited to major impacts on residential properties, business properties, wetlands, and farmlands. These items were the most important impacts as identified by the AC. Once again, the purpose of the evaluation was to identify the comparative differences between alternatives so total impact identification was not necessary.

Table 8 – Impact Estimate Summary for New NLTC Alternatives

New Alternative	Businesses (each)	Homes (each)	Wetlands (acres)	Farmlands (acres)
Build Full NLTC	15	127	163	448
Build ¾ NLTC	14	100	156	428

As expected, the Build ¾ NLTC is the least impactive alternative.

5.4 Selection of the Preferred NLTC Alternative in Weber County

The Study Team presented the benefit, cost, and impacts for the new corridor alternatives to the AC at a meeting held on November 30, 2000. There were only two new alternatives that met the NLTC purpose and need for a transportation corridor in the western part of Weber County that accommodated the 2030 travel demand. The widened I-15 Alternative never addressed the purpose and need but it was evaluated based on requests from AC members. Therefore, the Study Team recommended further consideration of the Build Full NLTC Alternative (No. 3) and the Build ¾ NLTC Alternative (No. 5).

The AC agreed that there was a need to accommodate future travel demand and that these two options adequately addressed the need. However, community division and specific impacts of these two options were still unacceptable to the AC. A new alternative was developed at the AC meeting. It was agreed to study an alternative that widened and expanded the existing arterial road system in Weber County. This new alternative was a modification of the new NLTC Alternative 4 (Build ½ North Legacy), which ended the NLTC at 5500 South in Southern Weber County.

The Study Team met with the affected local governments and developed the "Weber Arterial Plan" which met the NLTC purpose and need for a transportation facility in the western part of Weber County, as it accommodated the 2030 travel demand. In addition, the Study Team identified extensive impacts to properties that were adjacent to the existing arterials that would need to be widened.

The Study Team presented the Weber Arterial Plan to the AC at another meeting held on January 3, 2001. Although impacts associated with the Weber Arterial Plan were similar to the Build ¾ NLTC Alternative, the AC indicated that these

impacts were more acceptable than those associated with a new facility like the Build ¾ NLTC. Historically, local government general plans had called for widening of existing arterials like 4700 West, so the Weber Arterial Plan was more in line with community expectations.

There was concern among some AC members regarding the termination of the NLTC at 5500 South because of the "point discharge" of traffic into the arterial roadway system. Additional discussion about the Weber Arterial Plan led to more modifications. It was agreed that the NLTC should extend to 5500 South at the full width of 328 feet, and then extend farther north to 12th Street with a reduced width of 220 feet. The narrower corridor width from 5500 South to 12th Street would provide a funneling effect that allows traffic to filter into the east-west arterial roadway network at a few locations instead of one. This new alternative became known as the "Modified Weber Arterial Plan."

The location of the south end of this north-south NLTC extension into Weber County was fixed by the location of the corridor that West Point had been preserving since the WTC-MIS, near 5100 West. Thus, the Final NLTC Alternative was identified in Weber County. The Modified Weber Arterial Plan met the NLTC purpose and need and it included the following elements. Figure 6 shows this Plan.

Modified Weber Arterial Plan Elements

- a widened I-15 as necessary,
- a widened and expanded arterial roadway system, and
- an extended, narrower NLTC to 12th Street.

Insert fig 6

5.5 Evaluation and Selection of Sub-Alternatives

The Weber County Segment of the NLTC includes a small portion of Davis County (north of 1800 North) for coordination and evaluation purposes. The Weber County Segment includes the area from 1800 North in Davis County to 12th Street in Weber County. NLTC access points and grade-separated crossing locations are described at the end of this section for all of Weber County.

5.5.1 Description of Sub-Alternatives

Figures 7-1 through 7-3 provide diagrams of the following sub-alternatives in the Weber County Segment. The sub-alternatives are described from a south to north orientation.

Sub-Alternative A (Weber A at 4900 West)
This sub-alternative starts at 1800 North near 4300 West in Davis County. It then proceeds northeast to a point located at 5500 South near 4700 West in Hooper. Sub-Alternative A then proceeds due north along 4700 West to 12th Street.

Sub-Alternative B (Weber B at 5100 West - East Side)
This sub-alternative starts at 1800 North near 4300 West in Davis County. It then proceeds northeast to a point located at 5500 South near 5050 West in Hooper. Sub-Alternative B then proceeds due north along the eastern side of 5100 West to 12th Street.

Sub-Alternative C (Weber C at 5100 West - West Side)
This sub-alternative starts at 1800 North near 4300 West in Davis County. It then proceeds northeast to a point located at 5500 South near 5150 West in Hooper. Sub-Alternative C then proceeds due north along western side of 5100 West to 12th Street. It is offset from 5100 West by approximately 200 feet.

Sub-Alternative D (Weber D at 5300 West)
This sub-alternative starts at 1800 North near 4300 West in Davis County. It then proceeds north to a point located at 5500 South near 5300 West in Hooper. Sub-Alternative D then proceeds straight north to approximately 3000 South where it shifts back to the east to align with the west side of 5100 West. From there, it proceeds straight north to 12th Street.

Insert fig 7-1

Inseet fig 7-2

Insert fig 7-3

5.5.2 Evaluation of Sub-Alternatives

The Study Team used an impact summary table to quantify the impacts associated with each sub-alternative (see the " Weber County" Table in Appendix 3C). This process included the evaluation criteria set by the AC. Despite the use of this process, the most important evaluation criterion in this segment was community acceptance in Weber County.

5.5.3 Selection of the Preferred Sub-Alternatives

This Segment impacted Davis County, the Cities of Hooper and West Haven as well as Taylor Township and West Weber Township. The Study Team met with representatives of these communities individually and jointly to discuss the merits and impacts of each sub-alternative. A meeting was held on December 12, 2000 with Representatives from the affected communities (except for West Weber) to make a final decision on the preferred sub-alternative. It was agreed that Sub-Alternative B (5100 West – East Side) was the most acceptable sub-alternative, although some concerns still remained. Sub-Alternative B was selected for the following reasons:

- Equitable community impacts were an important consideration. Sub-Alternative B equally impacted Hooper and West Haven.

- Community division was an important consideration because utility service and maintenance would be difficult to provide to small islands in a community. The city boundary between Hooper and West Haven is 5100 West. Sub-Alternative A left a small strip of West Haven jurisdiction between 4700 West and 5100 West, which was unacceptable to West Haven. Sub-Alternatives C and D left a small strip of Hooper jurisdiction on the western side of 5100 West, which was unacceptable to Hooper.

- The eastern side of 5100 West generally had fewer wetlands than the western side. Therefore, Sub-Alternative B would impact fewer wetland areas than Sub-Alternatives C and D.

Therefore, Sub-Alternative B (5100 West – East Side) was the preferred sub-alternative in the Weber County Segment of the NLTC.

5.5.4 Weber County Transportation Master Plan

Near the end of the NLTC study, Weber County and communities located in the Study Area announced their intention to prepare a Transportation Master Plan for western Weber County. This Master Plan will address arterial street improvements, based on the mobility analysis and Modified Weber Arterial Plan prepared during this NLTC Study. The Weber County Transportation Master Plan may also re-evaluate the Final NLTC Alignment that is discussed above.

5.6 Location of NLTC Access Points in Weber County

The NLTC could include access points at the following locations in Weber County:

- 5500 South in Hooper,
- 4000 South in West Haven, and
- 12th Street in West Weber.

The access points could be arterial roadway intersections, freeway interchanges, or transit stations. The EIS would determine the final locations of these access points based on the need to maintain property access.

5.7 Location of NLTC Grade-Separated Crossings in Weber County

The NLTC could include grade-separated crossings at the following locations in Weber County:

- 4800 South in Hooper,
- 3300 South in West Haven, and
- 2200 South in Taylor.

The EIS would determine the final locations of these locations based on the need to maintain property access.

6 Environmental Overview of the Final NLTC Alignment

This chapter describes the environmental impacts associated with the Final NLTC Alignment. The Study was built on the findings of the WTC-MIS by conducting evaluations that were more detailed and provide further refinements to the NLTC alternatives that were considered. This Study was not a NEPA-level environmental evaluation and analysis. As such, the level of detail for engineering and environmental analysis was limited. These engineering and environmental details will be considered as part of the next step of project development process; a NEPA level environmental study and preparation of an environmental impact statement.

6.1 Land Use

This section addresses parks and recreational facilities, schools, open lands, property ownership, proposed developments, indirect impacts, and farmlands.

Parks and Recreation Facilities

The NLTC would not impact any public parks but it did impact the privately-owned Glen Eagles Golf Club in Syracuse. However, this development was not completed and it may have been possible to reconfigure the golf course and the surrounding residential areas. The Study Team worked with Syracuse City to develop a NLTC location that minimized this impact.

Schools

The NLTC did not impact any schools directly.

Open Lands

There is no dedicated “Open Space” within the NLTC limits. On January 24, 2001, representatives from WFRC and Utah Open Lands met to discuss this issue. Utah Open Lands indicated that there were not any plans for dedicated open space within the NLTC limits.

However, the Utah Legislature had officially designated Marriott-Slaterville as an Open Space Community. The City identified and preserved a large natural area in the center of their community. The “Build Full NLTC” alternative would have impacted this designated open space, which was one of the reasons that Marriott-Slaterville preferred the Weber Arterial Widening alternative instead of the “Build Full NLTC” alternative. It did not impact the designated open space.

The Nature Conservancy of Utah had been acquiring upland and wetland properties along the shore of the Great Salt Lake. They provided the Study Team with maps of existing and proposed property ownership, which would be placed into conservation easements. The NLTC impacted some of these properties but exact ownership and level of impacts were unclear due to the ongoing nature of the land acquisition program.

Property Ownership

Property lines were identified but ownership of all individual properties along the corridor were not identified as part of this Study. Micro-refinements of the alignments were made to minimize severing parcels. The Study Team made significant effort to make NLTC alignments match existing property boundaries where possible.

Proposed Developments

There were many proposed developments within the Study Area. The AC provided development information early in the study process. The NLTC development process attempted to avoid as many proposed developments as possible. However, this was not a primary constraint as was avoidance of wetlands and existing developments.

During the study process, some new subdivision developments were approved and started. These were not considered during the Study. Some of these developments may be impacted by the preferred alignment, but since they started after the data collection phase of the study, they were not considered in the evaluation. The purpose of the Study was to identify the NLTC location so that future developments could be planned around the NLTC.

Farmington was working with developers and the Study Team to master plan the portion of their city located west of I-15. This planning included a proposed City Maintenance Yard that was directly affected by the NLTC. It was recommended that Farmington hold the NLTC as a master plan constraint and develop new facilities around the NLTC property requirements.

Kaysville was experiencing rapid development in the area located west of I-15. This included a proposed industrial park that would be directly affected by the NLTC. It was recommended that Kaysville hold to the NLTC as a master plan constraint and develop new facilities around the NLTC property requirements.

Indirect Impacts

Indirect impacts are anticipated resulting from the NLTC when improvements are constructed (20-30 years). One of the indirect impacts would be a change in traffic patterns as drivers access the new transportation facility in the NLTC.

Farmlands

The Study Area included undesignated farmlands, prime farmlands, unique farmlands, state important farmlands, and Centennial Farms. Avoidance of prime farmlands and Centennial Farms was a primary consideration during alternative development. Farmland impacts are listed below:

Farmland Type	NLTC Impacts
Centennial	0 acres
Unique	3 acres
State Important	34 acres
Prime	320 acres
Total	357 acres

6.2 Social Conditions

The social factors that would likely be affected by the Final NLTC Alignment include community unity, school access, community disruption, local street effects, pedestrian safety, pedestrian circulation, noise, and overall personal safety perceptions (perceived sense of not being safe in home or yard if next to a freeway or transit facility).

The proposed NLTC is 220 feet or 328 feet wide. The width, the visual barrier, and the restricted access points may be perceived to separate communities located on the western and eastern sides of the NLTC. It should be noted that the existing north-south Power Corridor and existing railroad corridors already maybe perceived as a social community separator. There were not any existing subdivisions that would be divided by the Final NLTC Alignment.

6.3 Relocations

Currently, there are 101 homes, and one business located directly within the Final NLTC Alignment. If construction of improvements in the Final NLTC Alignment were imminent and an EIS had been approved, then plans would be made to acquire these homes and business within the near future. However, since improvements within the NLTC are about 20, or even 30 years in the future, there are no immediate or near future plans to acquire these homes and relocate their residents. Those who choose to remain in their homes, or business, during the next 20 or 30 years will find that their properties will appreciate in value. When the NLTC project is fully developed and funded for property acquisition and construction, these homes will be purchased at fair market value, and residents relocated. Some who wish to sell there homes in the near future for any reason, may experience more difficulty in the form of a longer time frame to sell and/or diminished property value. When people experience this situation, it could be a considered a hardship (see the following discussion on hardship).

Hardship Acquisition

The State Legislature has established a corridor preservation fund that can be used for hardship acquisitions. However, the fund is relatively small, and can only be used for projects that are included in the LRP for implementation in the next 20 years. Some segments of the Final NLTC Alignment will probably be included in the first 20 years of the LRP. Also, current UDOT policy only makes hardship acquisitions available for projects that have had environmental approval.

Generally, to qualify for a hardship purchase, the property owner must demonstrate that the proposed project has caused a hardship on the owner's property. The property owner must prepare a letter and send it to the respective UDOT Region Director. The Region Director will evaluate and make recommendations to the UDOT Right of Way Manager who will also evaluate the situation to determine if in fact a hardship exists. If it has been determined that a hardship does exist, the UDOT Right of Way Manager will submit a request to the Transportation Commission to make the final determination and decision whether to approve or deny the hardship petition. Final determination will be based upon the availability of funds and comparison with the needs of other hardship applicants.

6.4 Economic Conditions

The economies of the communities in Davis and Weber Counties are diversified, relatively strong, and had been growing consistently for several years. Implementation of the NLTC would strengthen the economies of the communities in the Study Area by providing better access to existing and future businesses. Increased accessibility and reduced travel time increases the market area for retail development and reduces operational cost for business that are dependent upon product or supply delivery by truck or train.

6.5 Pedestrians, Equestrians, and Bicyclists

There are no existing pedestrian, bicycle, or equestrian trails within the NLTC but the NLTC would include various types of new trails. Specific details of these trails were not determined as part of this study but will be determined as part of an EIS. In addition, pedestrian access to schools will be addressed as part of an EIS.

The 328 foot wide property of the NLTC would permit construction of a Class I Bikeway throughout its entire length. A Class I Bikeway provides for bicycle travel at a location completely separate from any street or highway. There are several trail issues that would need to be resolved as part of the EIS, but the NLTC would generally enhance the trail transportation system.

6.6 Air Quality

An air quality analysis was not performed as part of this study. NLTC conformity with the LRP would need to be demonstrated prior to approval of an EIS. In addition, regional air quality conformity must be determined by the WFRC at least every three years for LRP development.

6.7 Noise

A noise analysis was not performed as part of this study. Details regarding the transportation modes within the NLTC must be determined prior to performing a detailed noise study,. Noise mitigation would be required regardless of the type of transportation modes implemented.

There were discussions throughout the study regarding use of berms or noise walls to act as noise attenuation. The feasibility and effectiveness of these options would be determined during an EIS.

6.8 Water Quality

Water quality considerations include existing surface water feature impacts, groundwater impacts, and new stormwater runoff treatment and attenuation facilities.

Surface Water

There are various surface waters within the Study Area including natural drainages and surface irrigation systems. All of these systems flow from west to east across the NLTC. Potential NLTC impacts to the following streams would be evaluated during an EIS. Also, The EIS process would identify the type of crossing and mitigation measures to be implemented, if necessary. The NLTC crosses the following waterways:

- Farmington Creek,
- Bair Creek,
- Holmes Creek,
- Kays Creek,
- Hooper Canal,
- Howard Slough,
- West Hooper Branch Canal,
- Hooper Slough, and
- Walker Slough.

Groundwater

In general, the groundwater flow in Davis and Weber Counties follows the surrounding topography. Thus, the general movement of groundwater is westward toward the Great Salt Lake. The number of springs and wells that would be impacted by the NLTC is unknown at this time. A spring maybe located near the NLTC at a location close to the 3200 West/Bluff Road intersection in Davis County. Additional evaluations would be conducted as part of an EIS.

Stormwater Treatment and Attenuation

Detailed stormwater treatment and attenuation facility requirements would be determined with the EIS. Storm drain collection systems would be designed and managed according to requirements of UDOT, the local government, and the

UDEQ, Division of Water Quality (DWQ). Storm water would likely be discharged into water quality treatment facilities and then into existing watercourses and storm drain facilities.

6.9 Permits

The study effort did not include the identification of necessary permits or preparation of permit application forms. NLTC implementation would require at a minimum the application for and approval of several regulatory permits primarily associated with water resources, including:

- storm water general permit for construction activities,
- section 404 of the Clean Water Act - Wetland Permit, and
- Utah Division of Water Rights - Stream Alteration Permits.

The electrical, gas transmission, other utility relocation permits, and railroad permits required to implement the NLTC were not investigated as part of this Study.

6.10 Wetlands

Under the Clean Water Act, the USACOE regulates dredge and fill activities impacting navigable waterways of the United States and their tributaries (including jurisdictional wetlands). The Study Area included jurisdictional wetlands. Several coordination meetings were held with the USACOE to identify and discuss wetland function and values, especially those that they consider sensitive.

Two sources of information were used to identify wetlands in the study process. The first source was detailed field delineated wetland surveys that were prepared as part of the Legacy Parkway. This delineation was available for portions of the Study Area located south of Shepard Lane in Kaysville. The second, and primary, source of information was mapping provided as part of the National Wetland Inventory (NWI). The NWI maps were used for portions of the Study Area located north of Shepard Lane. The scope of work and budget for the Study did not allow detailed wetland delineation for the entire Study Area. That work would be completed as part of the EIS.

It appeared that the selected NLTC alignment would impact approximately 144 acres of wetlands. Based on the USACOE coordination and available data sources, there were no wetlands within the selected NLTC alignment that represent a “fatal flaw” for future permitting of the NLTC.

6.11 Floodplains

The NLTC alignment generally followed the Bluff in Davis County. The Bluff is a natural geographic feature that delineates the flood plain for the Great Salt Lake. In Weber County, the flood plain generally follows inland streams and rivers. There are two different floodplain designations within the Study Area, and each one has slightly different floodplain elevations. The USACOE floodplain elevation

of 4217 feet is slightly higher than the FEMA floodplain elevation of 4215 feet due to dynamic wave action. This Study used the FEMA floodplain elevation of 4215 feet and determined floodplain impacts of approximately 2 acres.

This Study did not address flood plain mitigation requirements or locations. The EIS would need to address the necessary flood plain issues in more detail. The Legacy Parkway EIS showed both FEMA and USCOE floodplain elevations, but used the USACOE floodplain elevation to evaluate impacts and to control such items as minimum roadway elevation.

6.12 Wildlife

Wildlife impacts were not addressed as part of this Study. They would be addressed in the EIS.

6.13 Threatened and Endangered Species

Threatened and endangered species were identified as part of this Study, but more detailed evaluation would be provided in an EIS. The preliminary review indicated that were no impacts to rare vertebrate or invertebrate species, rare plants, or threatened and endangered species.

6.14 Cultural Resources

Cultural Resources include paleontological, archeological, and historic resources. The impacts on these resources were not addressed as part of this Study but would need to be addressed as part of the EIS.

6.15 Hazardous Waste Sites

Information on hazardous waste sites was obtained from data supplied by the UDEQ. The NLTC did not impact any UST or CERCLA sites.

6.16 Visual Conditions

The NLTC would impact existing visual conditions. The view of those who live or work near the NLTC would likely be impeded to some degree. The worst-case scenario would be if the transportation facility were raised. Landscaping within the NLTC would help to soften the visual impacts of the potential facilities. Architectural treatments on structures, noise walls, and transit buildings were devices that could mitigate for visual impacts.

6.17 Construction Impacts

There would be several temporary impacts associated with construction activities of the NLTC, including:

- noise, dust and vibration,
- accessibility,
- temporary irrigation and drainage disruption, and
- emergency vehicle access.

6.18 Indirect Impacts

The NLTC would create several indirect impacts of both a positive and negative nature, as indicated in the following partial list.

- better access within the general area,
- possible accelerated growth within the general area,
- accommodation of regional transportation needs, and
- traffic reduction on other regional facilities (e.g. I-15).

6.19 Environmental Justice

A cursory review of the Study Area indicated that the NLTC did not disproportionately impact or benefit neighborhoods that were low income or composed of predominantly minority groups. The final environmental justice evaluation would occur as part of the EIS.

6.20 Cumulative Impacts

It is likely that NLTC construction could result in some cumulative impacts. This would likely occur as other roadways are developed and improved to connect to the NLTC. The final cumulative impact evaluation would occur as part of the EIS.

7 Next Steps

The NLTC Study builds upon earlier transportation planning studies in this area and the LRP. Successive studies have recommended more capable facilities in a progressively narrower corridor. The purpose of this Study was to identify a NLTC alignment and width that could accommodate major transportation facilities in the future. It was not the purpose of this study to identify those transportation facilities; however, it was necessary to estimate the general types of facilities that might be needed, so that adequate corridor width and curvature limits could be identified. As noted earlier in this report, the AC chose an alignment width that would accommodate major highway and rail transit facilities if needed in the future.

The next step in the corridor preservation process is to establish programs enabling the preservation of the NLTC. In addition, an EIS needs to be completed within the next 10-15 years. Construction of transportation facilities in the NLTC may be 20-30 years away and may proceed in phases. One of the first steps in the EIS process is identification of purpose and need. Also, the EIS must evaluate impacts resulting from a “no build” alternative. During the NLTC Study, preliminary year 2030 travel demand forecasts became available, but they were based on many land use assumptions in Weber County. These assumptions will be validated in the future and better travel forecasts can be made to support the purpose and need for the NLTC.

Preservation of the NLTC will prevent needless expense; a significant number of relocations; and disruption of community plans in the future. Communities can explicitly express their preference for the Final NLTC Alignment by adopting the results of this study and protecting the property that was identified.

7.1 Preservation of the NLTC

The main purposes of NLTC preservation are to:

- preserve viability of future transportation options,
- reduce overall costs of these options, and
- minimize environmental and socio-economic impacts.

The single most important outcome of this study is for each jurisdiction to protect the Final NLTC Alignment from land development. This responsibility is shared by local and state governments and, from a planning perspective, the WFRC. The primary responsibility rests with local communities along the corridor, because of their ability to apply land use controls, such as zoning and approval of developments. Adoption of the Final NLTC Alignment by local governments is both an internal and external commitment. It is an internal commitment to citizens and future leaders in the community that the Final NLTC Alignment will be the ultimate location for regional transportation facilities within the Study Area. It is an external commitment because it represents an agreement with, and a commitment to, adjacent jurisdictions that the Final NLTC Alignment is the best

location for such facilities. The remainder of this section summarizes immediate actions and some techniques that local communities can employ to preserve the NLTC.

7.1.1 Action Items for Communities

This section provides specific recommendations for the communities affected by the NLTC.

Actions for all Communities

All communities within the Study Area should review their current general plans to determine if changes are necessary to accommodate the NLTC. It may be necessary to change the transportation elements of these plans to provide a supporting arterial roadway system that meshes with the proposed NLTC access points or grade separated crossing locations. It may be necessary to modify land use and zoning plans, as well as land development codes or regulations. The WFRC can assist the communities in this effort. Preservation efforts will be most effective if communities:

- incorporate the NLTC in transportation master plans,
- utilize existing subdivision ordinances for preservation of the NLTC,
- inform the public and the development community of the NLTC,
- initiate cooperative measures with developers and land owners to preserve the NLTC,
- encourage WFRC and UDOT to identify near-term funding for NLTC acquisition in the Transportation Improvement Program (TIP) and Statewide Transportation Improvement Program (STIP), and
- prepare a corridor preservation plan so that responsibilities and procedures can be established and essential cooperation across jurisdiction boundaries can occur.

Davis County

The NLTC is located along a path that is mostly controlled by Davis County. However, many cities are currently planning to, or will soon, annex these pockets of county jurisdiction. Davis County and local governments should work together to ensure that the identified NLTC is preserved from development during and after annexation. A small area of county jurisdiction will probably remain near the Davis/ Weber County Line. Davis County should preserve the NLTC in this area.

Farmington

Farmington is currently working with developers and their community to master plan the portion of Farmington located west of I-15, including the Final NLTC Alignment. This planning includes a proposed City Maintenance Yard that is directly affected by the NLTC. Farmington should hold the NLTC as a master plan constraint and develop new facilities around the NLTC property requirements.

Kaysville
Kaysville is experiencing rapid development in the area located west of I-15. This includes a proposed industrial park that would be directly affected by the NLTC. Kaysville should hold the NLTC as a master plan constraint and develop new facilities around the NLTC property requirements.

Layton
In addition to corridor preservation, it is important for Layton to configure the arterial roadway system within the city to match the proposed NLTC access point on 2700 West.

Syracuse
In addition to corridor preservation, Syracuse needs to address the impacts to existing developments (a residential subdivision and a golf course) in the area north of Antelope Drive. The proposed NLTC access point on Antelope Drive should be given special attention with respect to future development.

West Point
West Point has already done an excellent job of protecting the NLTC Alignment through the implementation of corridor preservation techniques. This effort should continue. West Point could serve as a valuable resource to other communities that want to accomplish corridor preservation.

Weber County
Weber County is planning to update their General Plan in 2001. The planning effort will include evaluation of future transportation needs and recommendations for new roadways and their alignments, and the expansion of existing arterial streets. This Weber County process may alter the results of the NLTC Study. Weber County should coordinate with other local governments as part of this effort.

Also, Weber County is reviewing applications from property owners to preserve farmlands. It is anticipated that a farmland area or areas equaling about 3,000 acres will be included in an agricultural protection zone. This process may alter the results of the NLTC Study. Weber County should coordinate with other local governments as part of this effort.

Hooper
In addition to corridor preservation, this new city should work with Weber County on the master planning and agricultural protection efforts. Continued coordination and cooperation with West Haven should occur as well.

West Haven
In addition to corridor preservation, West Haven should work with Weber County on the master planning and agricultural protection efforts. Continued

coordination and cooperation with Hooper and other adjacent communities should occur as well.

7.1.2 Techniques for Corridor Preservation

There are several publications regarding corridor preservation. Each of the local government entities involved in this study has been given a copy of a manual prepared by UDOT and Brigham Young University, which is entitled Methods and Techniques of Corridor Preservation: A Guide for Utah Practice (June 30, 1999). This manual is an excellent reference and should be reviewed for a detailed discussion on corridor preservation techniques.

Until UDOT is ready to proceed with an EIS, cooperative preservation measures may be the best tools available to local communities. Some specific corridor preservation techniques that may be most beneficial and easily implemented are identified below:

- **Developer incentives and agreements**. Public agencies can offer incentives; in the form of tax abatements or streamlined site plan approvals, to developers who maintain vacant property within the Final NLTC Alignment.

- **Exactions**. Exactions are similar to impact fees, except that they are paid with land rather than cash. As development proposals are submitted to the cities for review, efforts should be made to exact land identified within the NLTC.

- **Fee simple acquisitions**. This will most likely consist of hardship purchases or possible city/county acquisition of property identified within the Corridor. Parcels obtained in fee title can later be sold to the UDOT or the Utah Transit Authority (UTA) at market value when construction of a transportation facility begins within the NLTC.

- **Transfer of development rights and density transfers**. Government entities can provide incentives for developers and landowners to participate in corridor preservation programs using the transfer of development rights and density transfers. This is a powerful tool in that there seldom is any capital cost to local governments and developers can maximize the development potential of their property.

- **Land use controls**. This method allows government entities to use police power to regulate intensity and types of land use. Zoning ordinances are the primary controls over land use and the most important land use tools available for use in corridor preservation programs.

- **Purchase of options and easements**. Options and easements allow government agencies to purchase interests in property that lies within the NLTC without obtaining full title to the land. Usually, easements are far less expensive than fee title acquisitions.

These are just some of the techniques that can be implemented by the local jurisdictions. A more thorough discussion of the above and other techniques are included in Appendix 3D.

7.1.3 Coordination with Other Agencies

As indicated above, the first line of defense in preserving the NLTC lies with each local community. Every effort should be made to use the techniques mentioned above, or others to preserve the NLTC. When the efforts of the local communities are exhausted, they should contact UDOT prior to permitting development within the corridor. Several different divisions within UDOT have an interest in preservation of the NLTC, including Region 1 and the Legacy Highway Team. Until an EIS is underway, the primary contact at UDOT is Lyle McMillan, Chief of Right-of-Way, at 801-965-4331.

WFRC and UDOT would like to maintain a staff-level committee that would meet regularly and assist communities with specific preservation issues involving the NLTC. We envision that the AC formed for this project might continue meeting quarterly for this purpose. WFRC will propose that such a committee be formed and will advance this concept through WFRC committees.

7.1.4 Recent Legislation

The Utah Legislature has long recognized the importance of preserving corridors for future highway and transit facilities. During the 2001 session, the Legislature strengthened key sections of the Utah Code to emphasize transportation corridor preservation. The considerations used to prioritize disbursements from the Corridor Preservation Revolving Loan Fund were amended to require that the cost-effectiveness of the preservation project be considered. The Legislature established a new Corridor Preservation Advisory Council with the following responsibilities:

- assist with and help coordinate corridor preservation efforts of the department and local governments,
- provide recommendations and priorities concerning corridor preservation and use of fund monies to the department and the commission, and
- include members designated by each metropolitan planning organization in the state to represent local governments that are involved with corridor preservation through official maps and planning.

The complete text of this legislation is found in Appendix 3D.

7.2 Preservation of Existing Roadway Functionality

The local governments should consider developing an access management policy for roadways under their control. Access management plans can be used to support state and local objectives related to roadway safety and efficiency, as well as community objectives related to economic development, community character, corridor preservation, and neighborhood mobility. They are especially helpful in coordinating land development and access management on roadways under state jurisdiction, and can be used to define the roles and responsibilities of all involved agencies. Having an access management plan in place benefits property owners as well. By helping to preserve roadway capacity, it allows the corridor to accommodate higher intensity development. This, along with the improvements to the quality of access design, helps to maintain or increase long-term property values. Because access management plans provide a coherent framework for future development and site access decisions, they help facilitate fair and consistent treatment of applicants during access permitting. Appendix 3F provides more information on this important topic.

Frontage roads (or access roads) are an important element of access control in areas with limited access and plenty of open space. They provide access from collector roadways coming off minor arterials. This is the best way to allow commercial development frontage on the minor arterial while limiting access directly on the minor arterial. There are special frontage road design elements that need to be considered before implementation.

7.3 Interagency Agreement with UDOT

It would be helpful for local governments to enter into an agreement with UDOT regarding access to state roads that run through their cities. This will help each community by providing a framework for future access permit applications related to private development. The community can grow around the main connections to the state roads. It is advantageous to help UDOT by providing enough overall community information so that individual access points can be reviewed with an understanding of future access needs.

It is important that each community understand UDOT's requirements for traffic signals and access points within the operational sphere of a signalized intersection. Also, an understanding of UDOT's access permitting requirements is important.

7.4 Roadway Design Standards

Cities should adopt design standards for roadways so that the facilities provide the required safety and capacity elements. There are many sources of information discussing typical design standards for streets in residential areas. Recent research indicates that wider roads are not necessarily safer roads due to faster vehicle speed. There are other considerations such as parking needs, terrain, and development density that should be considered when developing roadway design standards.

7.5 Land Use and Transportation Planning Integration

Recent studies indicate that centralized commercial development land use patterns have negative traffic impacts as the community grows. Residents from the outskirts of town must travel downtown or to the central corridor to go shopping, which creates traffic congestion on major roadways. Local governments should considering placing small commercial clusters around the outside of town to create convenient locations for people to purchase goods and services, while minimizing travel distances. This could be accomplished with simple rezoning or through planned unit developments. It is recommended that the cities consult with WFRC or an urban planner to discuss this concept in more detail.

7.6 Preparation of an EIS

Preparation of an EIS is the next major step in the NLTC development process. The EIS will address regulations in-place at the time of the study sometime in the next 10-15 years. However, there are some issues that must be resolved before the initiation of an EIS, including the following:

Development of a NLTC Purpose and Need

This study did not develop a NLTC purpose and need beyond those items developed as part of the WTC-MIS. One of the main components of an EIS is a defensible purpose and need for action. Based upon preliminary travel demand modeling by WFRC, a transportation corridor on the western side of Davis and Weber Counties will be needed in the future. The on-going IRCAA concurs with this conclusion and is evaluating transportation alternatives throughout the Study Area.

Evaluation of a Logical Terminus to the North

Facilities selected in an EIS must address the purpose and need, and must be stand-alone facilities with independent utility. In other words, there should be nothing inherent in the selected corridor, facility-type, or terminus that would, of necessity, require further construction for which environmental impacts have not been studied. FHWA indicates that studying environmental impacts of a transportation facility only up to 12th Street may be inappropriate because, of necessity, such a facility would clearly need to be extended to a more logical terminus. The logical terminus is largely dependent on traffic flow considerations.

Funding for an EIS has not been programmed

For UDOT to advance the NLTC to an EIS, it must be identified in the STIP. Other priorities have prevented programming of funds for this purpose within the five-year programming horizon. Construction within the corridor would probably be phased, starting from south to north.

Supplemental Environmental Impact Statement (SEIS)

An EIS that has not had significant action in three years needs a re-evaluation prior to a significant action. Current UDOT practice on a corridor level EIS calls for a re-evaluation for each project within the corridor as they arise. The re-evaluation

and subsequent SEIS, if it were needed, would only be required for the area of the specific project within the NLTC.

7.7 Conclusions

The single most important purpose of this Study was to identify a transportation corridor that could be preserved from development. This study has identified that corridor as the NLTC. Local jurisdictions should incorporate the NLTC property into master plans and protect it from development. It is anticipated that an EIS will be completed within the next 10-15 years. The EIS will evaluate the work performed in this study, and it will formally evaluate location and facility alternatives and assess the environmental impacts. Communities and the public will have ample opportunity to comment on proposed action during the EIS.

After completion of the EIS, the FHWA will issue a ROD. Assuming this decision favors the NLTC and proposed development of transportation facilities, UDOT and UTA will begin land acquisition, followed by construction.

8 NLTC Preservation Drawings

This chapter provides detailed drawings that can be used to identify and preserve the Final NLTC Alignment. Two types of drawings are provided, including detailed mapping and survey control sheets for the Final NLTC Alignment.

8.1 Detailed Alignment Mapping (11” x 17” plan sheets)

Figures 8-1 through 8-26 show property requirements for the NLTC. These drawings are based on recent aerial photography and they show existing survey control lines, roads, and parcels as background information. NLTC information includes the centerline (Black line) and 2 Boundary lines (Red lines). The Boundary lines show the limits of property needed for the NLTC mainline. These exhibits do not show property needs at access points or the property necessary to construct connecting roadway improvements. The black and red lines are labeled with geometric information that, when combined with the survey control sheets, can be used to stake the NLTC property needs in the field. Also, this information can be used to determine NLTC property needs for each parcel of land.

The Study Team provided these drawings in electronic format for future use by UDOT and the local governments.

8.2 Survey Control Diagram (11” x 17” plan sheets)

Figures 9-1 through 9-9 provide survey control information. This information is the survey basis for NLTC property needs shown on Figure series 8. This is part of the information needed by communities to electronically or physically locate the NLTC.

Insert figures ___ to ___ (row mapping)

Insert figures ___ to ___ (survey control sheets)

9 Description of Appendices – Bound Separately

The Study process generated a large amount of records and support documents. There are five separately bound sets of information that are summarized below.

Appendix	Part	Description
1	A*	Public Information Meeting #1 Summaries
	B*	Public Information Meeting #2 Summaries
	C*	Public Information Meeting #3 & 4 Summaries
2*	–	Meeting Notes & Summary of Proceedings
3*	A	Geometric Standards Table
	B	Evaluation Matrix Table for Initial NLTC Alternatives
	C	Evaluation Matrix Tables for sub-alternatives
	D	Corridor Preservation Information
	E	GIS Data Base Information
	F	Access Management Information

* Bound as one document